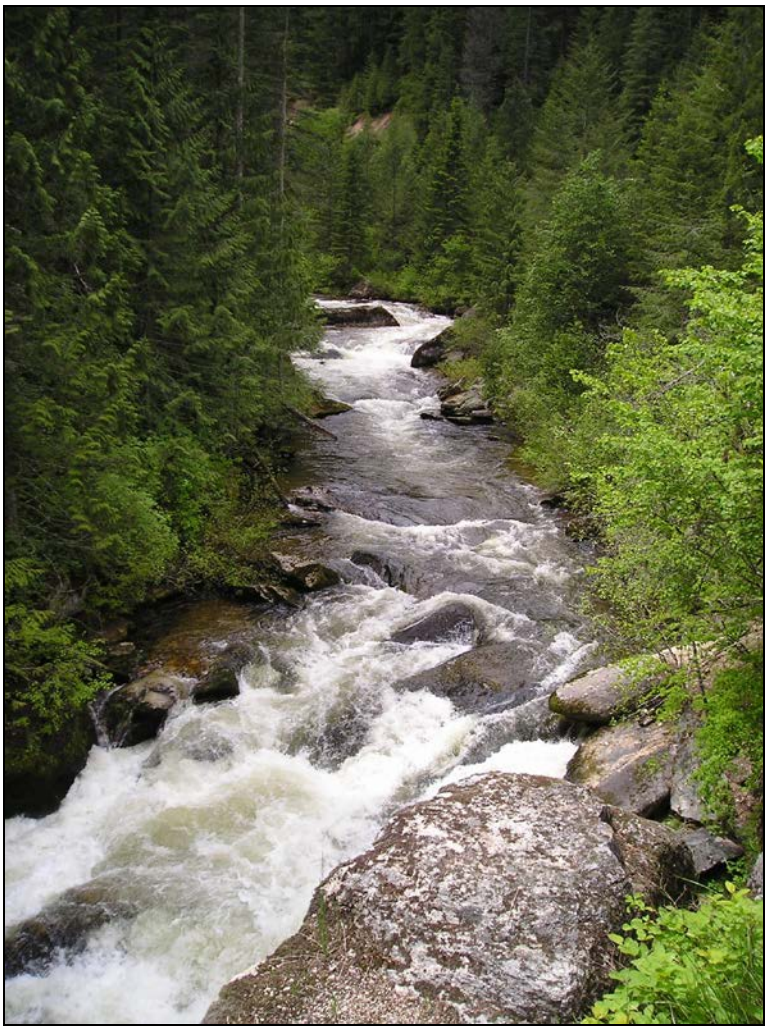
LOWER OROGRANDE
FINAL
ENVIRONMENTAL IMPACT STATEMENT
Chapter 6 and Errata

North Fork Ranger District
Clearwater National Forest



March 2013

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Chapter 6 and Errata
Lower Orogrande

North Fork Ranger District
Clearwater National Forest
Clearwater County, Idaho

March 2013

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Abstract: *This Final Environmental Impact Statement (EIS) provides a chapter on Public Involvement and an Errata Sheet for the revised Draft EIS. (Public comments on the Draft EIS did not disclose any new issues or a need for new analysis.) The Notice of Intent to prepare an EIS was published in the Federal Register on January 8, 2010, and the revised Draft EIS was made available for public review and comment on November 2, 2012. The Lower Orogrande project proposes watershed improvement, timber harvest, and access management activities within the National Forest portion of the 21,560-acre analysis area, located in the Orogrande Creek drainage approximately 30 air-miles east of Orofino, Idaho.*

TABLE OF CONTENTS

CHAPTER 6

PUBLIC INVOLVEMENT

This chapter discusses public involvement conducted during the Lower Orogrande analysis. Included are: (A) public participation opportunities; (B) Tribal consultation; (C) a list of those who commented on the revised Draft EIS; (D) comments received and our response; (E) consideration of other science/literature submitted by the public; and (F) a distribution list for the Final EIS.

A. Public Participation Opportunities

The Lower Orogrande project first appeared on the Forest Schedule of Proposed Action report in 2008. The original DEIS was completed in June 2011, followed by a Record of Decision, signed November 18, 2011. Due to a weakness in the original analysis, the decision was later withdrawn in favor of preparing a revised DEIS. Since then, the following public involvement activities have taken place:

10/23/12 – Letters and/or copies of the revised DEIS were mailed to interested publics, organizations, and State and Federal agencies.

11/2/12 – A legal notice appeared in the Lewiston Morning Tribune (paper of record) requesting comments on the revised DEIS.

B. Tribal Consultation

In addition to the opportunities listed above, the following consultation occurred with the Nez Perce Tribe:

4/18/12 and 10/25/12 – Updates on the revised analysis for Lower Orogrande was presented at the Nez Perce and Clearwater National Forests and Nez Perce Tribe quarterly staff-to-staff meetings.

10/23/12 – Copies of the revised Draft EIS were delivered to the Nez Perce Tribe Chairman and staff. No comments were received.

C. List of Those who Commented on the DEIS

The public was given 45 days (November 2, 2012 – December 17, 2012) in which to provide comment on the DEIS. Seven letters were received from the following individuals, agencies, and organizations:

1. Jean Public, Flemington, NJ, who provided no comments specific to the DEIS.
2. Dick Artley (DA), Grangeville, ID, who requested we consider his list of opposing views.
3. Idaho Department of Parks and Recreation (IDPR) – submitted by Jeff Cook, who requested that we include his previous comments.
4. U.S. Department of the Interior, Office of Environmental Policy and Compliance – submitted by Allison O'Brien, who had no comments to offer.
5. U.S. Environmental Protection Agency (Region 10) – submitted by Christine Reichgott, who rated the revised DEIS LO (Lack of Objections).

6. Idaho Conservation League (ICL) – submitted by Jonathan Oppenheimer, who provided new comments.
7. Friends of the Clearwater, Alliance for the Wild Rockies & The Lands Council (FOC) – submitted by Gary Macfarlane and Jeff Juel, whom requested that we include their previous comments.

D. Comments Received and Our Response

Access

1. Comment: The DEIS states "or 6.1 miles of road per square mile". This is a misleading statement. The FEIS should clearly state the amount of roads open to motorized vehicles on a year-round or seasonal basis throughout the range of alternatives. (IDPR)

Response: The 6.1 mi/mi^2 figure represents the current road system (approx. 224 miles of open and closed roads) within the project area. This figure is used as an issue indicator for the watershed analysis, and is not meant to describe existing access for motorized vehicles. The figure drops to 3.6 mi/mi^2 under Alternatives 2 and 3. Effects on motorized and non-motorized access are described under the Transportation section on pages 106-108 of the revised DEIS.

2. Comment: We request that the FEIS detail how many miles of road obliteration will be active obliteration (i.e. ripping of roads and full bench recontour) vs. abandonment, or vs. something in between (i.e. pulling of culverts + abandonment + ripping of first 300 feet). (ICL)

Response: Detailed road surveys are still being conducted on roads proposed for decommissioning. The miles of recontour vs. abandonment have not yet been determined; however, based on the topography, the location of the roads, and experience with past decommissioning on the Forest, the majority of roads would be actively obliterated with most receiving full bench recontouring.

Economics

3. Comment: Given the challenges with securing funds to accomplish the watershed treatments, we encourage you to seriously consider Alternative 3. While we do not suggest that the 2.4 miles of temp road as the most critical issue, we do suggest that avoiding the construction of these roads could save money, reduce the likelihood of further appeals, and safeguard environmental resources. (ICL)

Response: Alternative 3 was formulated to address concerns over new road construction, including temporary roads. The cost of temporary roads in Alternative 2 is a very small portion of the total cost, with most of the cost due to current timber market conditions and the inability of the stumpage values to cover all essential reforestation. However, if timber sale offerings on the Forest continue to receive higher bids than predicted, the cost of remaining reforestation work would likely be covered (revised DEIS, p. 110).

4. Comment: It is clear that the logging is below cost. How will it generate money to pay for the watershed improvement projects – road decommissioning and culvert replacement? The stumpage value would cover less than a quarter of any stewardship costs. (FOC)

Response: Any watershed improvement activities not paid for through the sale could be paid for through stewardship retained receipts, through appropriated funds, or through partnerships. The Clearwater has an excellent record of gaining funding through these means where the timber sale may not support all the watershed restoration activities.

NEPA / NFMA

5. Comment: Section 101(b)(4) requires all USFS to support biodiversity. This human manipulation of the natural forest conditions significantly harms the biodiversity of the area. The final NEPA document must contain a section detailing how the diversity of fish and wildlife habitat will be maintained with this project. (DA)

Response: This comment refers to Section 101(b)(4) of the NEPA Statute, which specifically states: "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice." The Lower Orogrande project meets this regulation, as follows:

In compliance with the National Historic Preservation Act, heritage surveys were conducted for this project, and the Forest Archaeologist consulted with the Nez Perce Tribe and the Idaho State Historic Preservation Office (SHPO). Since the preferred alternative (Alt. 2) has not significantly changed in the revised DEIS, the concurrence letter from SHPO, dated July 22, 2011, still applies to the current analysis.

Maintaining an environment which supports diversity is inherent in the purpose and need statements and the proposed action for this project. For example, the proposed vegetative actions are expected to start the trend to improve species diversity, and the replacement of undersized culverts are aimed at removing barriers to fish passage and other aquatic organisms to allow these species to repopulate historic habitats (refer to revised DEIS, page 4).

6. Comment: How are the new DFCs in the DEIS the same as those in the forest plan? Why wasn't a site-specific plan amendment done to adopt these new DFCs? Thus, isn't this DEIS functioning as a forest plan amendment without going through the legitimate and legal amendment process? (FOC)

Response: The DFCs for the project are more site specific than those found in the Forest Plan, and are based on Forest-wide goals and objectives. They are in response to the current conditions within the project area and give impetus to the purpose and need for action.

7. Comment: The DEIS fails its duty under NEPA to offer and disclose to the public a reasonable range of alternatives that includes scientifically and ecologically sound management proposals. The DEIS does not include an alternative that stays out of riparian habitat conservation areas (RHCAs); it does not fully analyze a watershed restoration alternative; and it does not analyze an alternative that would meet NFMA by restricting openings from logging to 40 acres. (FOC)

Response: Activities affecting RHCAs only pertains to proposed precommercial thinning opportunities, which is common to both action alternatives (refer to revised DEIS, p. 19). Since

this activity would have “no effect” on water yield, sediment yield, or fish habitat, there is no need to develop an alternative that avoids the RHCAs. A watershed restoration alternative and an alternative having opening 40 acres or less were considered and eliminated from detailed study, as explained on pages 27 and 28 of the revised DEIS.

8. Comment: The BHROWS document has not gone through the NEPA analysis and decision process to look at a range of alternatives or to consider cumulative impacts. It has not been adopted into the forest plan though the DEIS vegetation goals and DFCs are based on its “recommendations.” (FOC)

Response: The Lower Orogrande project referenced the Orogrande Ecosystem Analysis at the Watershed Scale (not BHROWS), but did not tier to it, as suggested by this comment. Instead, this project was guided by the goals, objectives, standards, guidelines, and management area direction of the Clearwater National Forest Plan. All alternatives considered have been found to be consistent with the Forest Plan and other laws and regulations, and has so been documented in the revised DEIS.

9. Comment: The issue of reasonably foreseeable actions/cumulative impacts needs better explanation. For example, the cumulative impact analysis in the economic section of the DEIS refers to the, "Forest 5-year timber sale plan." What timber sales are on this plan? Have all of the sales been through NEPA scoping? What about sales that have not been through scoping but the agency has, at some level, done some planning or design work? (FOC)

Response: There is no connection between foreseeable actions/cumulative impacts in any project specific analysis with regard to the five year timber sale action plan. Its reference in the Economics cumulative section is to provide the reader a Forest-wide look at the average annual timber volume offered, which in this case is 25 MMBF/year. Sales listed on the five year timber sale action plan include a mix of sales that have a NEPA decision to those that are proposed but have little/no design work completed. Projects/sales on the plan are dropped, added and changed regularly to track adjustments to our NEPA plan and timelines. The five year action plan is an implementation planning tool that does not represent a fixed commitment by the Forest and sales/sale information is tenuous at best. The intent of this plan is to track projects through NEPA in developing a possible implementation strategy. Currently, there are no other timber sales within the Lower Orogrande project area that are on the Forest 5-year timber sale plan.

Recreation

10. Comment: There are several groomed snowmobile trails in the project area. In order to protect snowmobile trail opportunities, we request that no winter logging be allowed for this project. (IDPR)

Response: At this point, it has not been determined if winter logging would occur with this project. If it is determined that winter logging is a method to address vegetative treatments in the area, recreation and vegetation specialists would meet to discuss ways to mitigate the impacts to snowmachine activities in the area. For example, project design could include winter logging in locations where less frequent snowmachine activity takes place, and prohibit it in high use locations (i.e. in the vicinity of French Mountain Saddle).

11. Comment: The logs are likely to be hauled out on the Pierce-Superior Road #250, a major recreation access road on the North Fork Ranger District. In order to prevent conflicts between recreation traffic and logging traffic, the IDPR requests that log hauling be prohibited on weekends and holidays. (IDPR)

Response: Timber haul routes would take into account the impact to other resource areas, including recreation. For instance, project design may identify log haul on less popular roads/routes during the weekend, and focus haul on NFS Road 250 during weekday time periods. There are also contract provisions (i.e. C6.316#) available to prohibit the purchaser or contractor from hauling on weekends and/or holidays. This information would be included in the prospectus for possible purchasers or contractors.

12. Comment: The DEIS makes an incorrect reference to statewide ATV registrations. The DEIS should have referred to current ATV registration figures and only those registrations in North Central Idaho. (IDPR)

Response: The most recent figures on the IDPR website identify that 10,026 ATV's were registered in North Central Idaho during 2011. This was a 0.6% decrease from the number of ATV registrations in the same geographic area for 2010.

13. Comment: We are very concerned with the decommissioning of Road 660. This road is currently a groomed snowmobile trail. The reconstruction of Road 547 could replace this groomed route, but will eliminate an ATV trail opportunity. (IDPR)

Response: We are aware of the potential access issues with the decommissioning of NFS Road 660. If NFS Road 547 is reconstructed, this issue would be mitigated, both for winter use (snowmachine grooming could continue) as well as summer ATV use (a connection route would still be available for users to access additional roads and trails in the vicinity). Also, the Orogrande OHV project would provide for an ATV-only route in the vicinity of the current NFS 547 route (refer to pages 106 and 107 of the revised DEIS).

14. Comment: The DEIS does not address the effects that the road decommissioning and road closures would have on dispersed camping. (IDPR)

Response: Road decommissioning proposed with this project would result in some impact to dispersed camping opportunities within the project area. However, the vast majority of the roads proposed for decommissioning are currently unavailable to users, due to current restrictions or environmental realities. Of the small percentage of system roads proposed for decommissioning (approximately 7% in the project area), the majority are restricted year-round to all vehicles. Additionally, the preferred alternative does identify decommissioning a large portion (approximately 75%) of the non-system roads in the project area. However, it is important to realize that the vast majority of these roads have been completely overgrown for some time now (revised DEIS, p-106). In sum, while there would be some minimal impact to dispersed camping opportunities, the majority of roads in the project area would continue to be available for dispersed camping and other recreational pursuits.

Soils

15. Comment: We are concerned with some of the impacts to soils, especially those units that may approach or exceed regional standards. (ICL)

Response: Unit-specific data for existing detrimental soil disturbance (DSD) from previous activities and post-implementation DSD estimates (Cumulative DSD from Previous Activities and Proposed Activities) are available in Appendix E in the table entitled Summary of Detrimental Soil Disturbance. The soil analysis methodology and basis for DSD estimates from proposed activities are presented in the Soils section of Chapter 4. Although Units 5, 7, 10, 13, and 27 are expected to approach the 15% DSD standard following treatment, design measure #6 (revised DEIS, p-25) would be implemented to ensure each unit stays below the 15% standard. Unit 8, which was listed at 17% existing DSD in the original DEIS, has been modified to exclude from treatment the past mining trenches that were the source of the existing DSD. The modified Unit 8 is now estimated at 6.6% DSD following treatment, well below the Regional standard.

16. Comment: It is unclear how "site-specific live-canopy retention" is consistent with INFISH/PACFISH direction to buffer landslide-prone areas by 100 feet in key watersheds. We encourage you to clarify the design measures in the FEIS and to incorporate specific direction in the ROD to ensure that all RHCA buffers, including landslide-prone areas, are incorporated into the project's layout and design. (ICL)

Response: Design measure #2 (revised DEIS, p-24) would directly result in 100 foot no-harvest buffers in landslide prone-areas, which is consistent with INFISH direction. The analysis for the revised DEIS identified seven units (19-25) that contain notable areas of high landslide hazard. As described in design measure #3, the soil scientist would be involved in these units field during implementation to finalize designation of areas requiring variable live-tree retention or no-harvest buffers.

17. Comment: The analysis in the previous DEIS/ FEIS is a bit different from the current DEIS with regard to soils. This looks strange (and suspicious) to someone reviewing the project. Could you please explain this seeming discrepancy? For example, the acreage to be logged on soils with high landslide potential is large, 326 acres. In the previous EIS, logging would have occurred on 416 acres with high landslide potential, begging the question of where the 90 acres in reduction came from if the only difference is possibly 20 acres of logging? (FOC)

Response: The soils analysis is fundamentally the same for the original DEIS and the revised DEIS, but some results of the analysis are different due to changes in treatments, unit boundaries, design measures and disturbance estimates. Compared to the original DEIS, the revised DEIS shows a 30 acre reduction in regeneration harvest, affecting Units 8 and 19. Units 26 and 30 have also been modified, in which Unit 26 is now included in the 660 acres of precommercial thinning, and Unit 30 has been dropped from the project[1]. See the response to comment #20 that describes changes in disturbance estimates.

Regarding the soil stability hazard analysis for the revised DEIS, the 326 acre figure is the total gross acreage of Units 19-25 produced in the soil stability/landslide hazard analysis. Actual acreage logged or "treated" would be considerably less that this gross acreage after areas requiring live-tree

[1] There is an error in the revised DEIS, in which both Tables 2.2 and 2.3 still include Units 26 and 30. This error is explained in the Errata contained in this document.

retention are excluded during implementation (refer to pages 64 and 65 of the revised DEIS). As discussed in the response to Comment #16, design measures #2 and 3 would be implemented to mitigate the effects of treatment within these units. This 416 and 326 acre figures in the original and revised DEIS are the result of the soil stability/landslide hazard analysis in the specialist report that used an analysis process based on GIS queries, clips, grouping, sorting and rounding. This process produced slightly different unit acres than the total unit acres presented in DEIS Tables 2-2 and 2-3, but these differences are small and acceptable for use as an indicator and does not compromise the quality and utility of the data produced from the query**.** There are 90 less treatment unit acres on areas with high soil stability/landslide hazards in the current revised DEIS compared to the original DEIS. This reduction is due to changes in proposed treatment of Units 26 and 30. The current figure of 326 acres is correct, with acceptance of the small error inherent in the GIS-based analysis described above.

18. Comment: The acreage to be logged ("treated") on soils with high landslide potential is enormous--416 acres. Why wasn't an alternative developed that avoided these areas? Why retain only 50% of trees when 100% canopy cover is needed in the most hazardous areas? (FOC)

Response: As discussed in the response to Comment #17, the acreage to be treated having high landslide potential is now 326 acres, which represents gross acreage. The actual acreage logged or "treated" within these units would be less than this after areas requiring live-tree retention are excluded during implementation (refer to pages 64 and 65 of the revised DEIS).

A separate alternative was not developed, since the Forest has been successful in mitigating the effects of treatment on similar areas, based on field observations. In all alternatives, avoidance of unstable areas will occur. As described in the DEIS in Chapters 2 and 4, design measure #2 would be applied to all activity areas, which would result in 100% live-canopy retention in the most unstable areas. Design measure #3 would be used to assure specific attention to units 19-25, including involvement of a soil scientist on layout.

19. Comment: The past EIS had 50% canopy retention in these units yet the current DEIS has no specific prescription for canopy retention. What is the expected "live-canopy retention" in these high landslide prone areas? (FOC)

Response: As described in design measure # 2 in the revised DEIS, landslide-prone areas would have 100% live-canopy retention and would include a 100 foot no-harvest buffer around the perimeter of the landslide-prone area. A soil scientist would be involved during layout to finalize designation of areas excluded from harvest and areas of variable live-tree retention (see revised DEIS design measure #3). At the unit-scale in regeneration units 19, 20 and 21, live-canopy retention would range from 100% live-canopy retention in highly unstable areas to 0-30% live-canopy retention on highly stable areas. This range of retention often results in an average 50% live canopy retention across a breakland landtype unit. Commercial thin units 22-25 would have live-canopy retention ranging from 100% live-canopy retention in highly unstable areas to approximately 50% live-canopy retention in the remaining areas of the unit. In addition to the tree-retention measures described in the DEIS, the criteria and rationale for determining the tree-retention requirements are described in detail in the soils specialist report, including a description of the basis of tree retention guidelines on historic fire disturbance patterns. Field surveys (pre and post treatment) by soil scientists have shown that adjusting canopy retention based on landscape features has been very effective in maintaining slope stability (refer to revised DEIS, p-24).

20. Comment: The past EIS suggested that detrimental soil disturbance standard would be exceeded on six units. No such determination is made now. Instead, appendix E lists five units that need design measures to mitigate soil disturbance. (FOC)

Response: The original DEIS actually identified five units expected to equal or exceed the DSD standard of 15%--Units 1, 5, 8, 10, and 19. Changes to disturbance estimates for these units in the revised DEIS are the result of adjustments to unit boundaries, further field and logging systems review, and integration of unit specific design measures. None of these units are expected to equal or exceed the 15% DSD standard following treatment, as described below for each unit:

Unit 1 –Disturbance estimates from proposed activities were updated to more accurately represent the logging access plan and accessibility after field review. A higher percentage of the unit is now expected to be accessed by aerial systems, consequently new disturbance estimates are lower. The cumulative DSD for this unit, displayed in Appendix E, is expected to be 13.8% for Alternative 2 and 11.9% for Alternative 3.

Unit 5 –The cumulative DSD for this unit, displayed in Appendix E, is expected to be less than 15% for both alternatives following harvest activities. This will be achieved with the implementation of design measures #6 and #7 to keep new activity disturbance below the maximum allowable new disturbance estimates listed in Table E-2. Review of proposed logging system, aerial photos and field review indicate adequate opportunities for reuse of existing disturbed skid trails and non-system roads to minimize new soil disturbance. All reused areas will be decommissioned and rehabilitated.

Unit 8 – This unit was modified to exclude from treatment the highly disturbed area occupied by old mining trenches. The cumulative DSD for this unit, displayed in Appendix E, is expected to be 13.3%.

Unit 10 – The cumulative DSD for this unit, displayed in Appendix E, is expected to be less than 15% for both alternatives following harvest activities. This will be achieved with the implementation of design measures #6 and #7 to keep new activity disturbance below the maximum allowable new disturbance estimates listed in Table E-2. Review of proposed logging system, aerial photos and field review indicate adequate opportunities for reuse of existing disturbed skid trails and non-system roads to minimize new soil disturbance. All reused areas will be decommissioned and rehabilitated.

Unit 19 – This unit was reduced by 24 acres to remove an area having very high landslide hazard potential. This adjustment resulted in a decreased existing DSD. The cumulative DSD for this unit, displayed in Appendix E, is expected to be 12%.

21. Comment: What is unclear is whether the 15% standard, regardless of its efficacy, would be exceeded, if only temporarily, before restoration work and decommissioning. (FOC)

Response: This project is designed to not exceed the 15% detrimental soil disturbance (DSD) standard and does not rely on soil restoration and decommissioning work to achieve this. In Appendix E, tables E-1 and E-2 display the existing % DSD and the estimated increase in % DSD from proposed harvest activities and temporary road construction. The sum of these is the estimate of cumulative % DSD after harvest activities and temporary road construction, but before restoration work and decommissioning. Due to the reuse of exiting disturbed areas (design measure #6) followed by rehabilitation and decommissioning (design measure #8), recovery of soil productivity and decreased DSD in currently disturbed areas is expected but is not quantified and incorporated into disturbance estimates.

22. Comment: How are the standards measured and are they adequate to meet NFMA? The DEIS provides little information on what was done except to note that shovel pits were dug. In essence, is what was done for the DEIS consistent with the recommendations in the research cited in chapters 3 and 4 of the DEIS? (FOC)

Response: The analysis methodology section on page 63-64 summarizes the range of tools used in the soils analysis. The analysis is consistent with national and regional guidance and applicable standards would be met during project implementation. Key guiding documents include the *Forest Service Region 1 Approach to Soils NEPA Analysis Regarding Detrimental Soil Disturbance in Forested Areas: A Technical Guide* (USDA 2009) and the *USDA Soil Disturbance Monitoring Protocol* (Page-Dumrose et al., 2009). The R1 technical guide "offers an approach for Forest soil personnel to conduct project level NEPA analysis to assure NFMA productivity requirements are met". The R1 technical guide "provides guidance to Northern Region (R1) soil scientists for project level analysis of the soils resource in areas in forested areas. It provides information on data collection protocols, analysis methodologies, monitoring methodologies, and data management. In particular, this document offers additional guidance related to the Regional Soil Quality standards (FSM 2500 – Watershed and Air Management, R-1 Supplement No. 2500-99-1) for detrimental soil disturbance (DSD)". Regarding the National Forest Management Act (NFMA), the R1 Supplement provides soil quality standards to assure the statutory requirements of NFMA Section 6(g)(3)(C) are satisfied. The soil quality standards protect the "productivity of the land" by setting limits for the degree of detrimental soil disturbance (DSD). The soils analysis for this project used the Forest Soil Disturbance Monitoring Protocol (SDMP) (Page-Dumroese, et al, 2009), which addresses the issue of detrimental soil disturbance (DSD) and provides a methodology with a statistical basis for confidence in the results. In addition to assuring NFMA requirements are met, the SDMP method and the landslide/soil stability hazard analysis were also used to assure Forest Plan standards are achieved (revised DEIS page 67-68).

The following excerpt from the Soils Specialist report appendix contains more detail on the SDMP method :

The Forest Soil Disturbance Monitoring Protocol (SDMP)
R1 Soil Protocol

The Forest Soil Disturbance Monitoring Protocol (SDMP) (Page-Dumroese, et al, 2009) addresses the issue of detrimental disturbance and provides a statistical basis for confidence in the results. (USDA Forest Service, 2007) A randomized transect method sampling of at least 30 points across the activity area is made. The sample "point" is a six-inch diameter circular area around the sample point. Four visual disturbance classes were identified, using forest floor impacts, evidence of past equipment use, surface displacement, depth of ruts, depth of compaction, depth of platy structure, and severity of burn (See table below). A determination is then made of how the results from the visual attributes or soil disturbance classes relate to "detrimental" disturbance as defined in FSM 2500. The portion of the activity area with "detrimental" disturbance can then be calculated.

Categories of soil impact, with increase in severity of impact from class 0 (undisturbed) to class 3 (severely disturbed).

Soil Disturbance Class 0 – Undisturbed Soil surface: No evidence of past equipment operation. No depressions or wheel tracks evident. Forest floor layers present and intact. No soil displacement evident. No management-generated soil erosion. Litter and duff layers not burned. No soil char. Water repellency may be present.	**Soil Disturbance Class 1** Soil surface: Faint wheel tracks or slight depressions evident and are <5 cm deep. Forest floor layers present and intact. Surface soil has not been displaced and shows minimal mixing with subsoil. Burning light: Depth of char < 1 cm. Accessory: Litter charred, or consumed. Duff largely intact. Water repellency is similar to pre-burn conditions. Soil compaction: Compaction in the surface soil is slightly greater than observed under natural conditions. Concentrated from 0-10 cm in depth. Observations of soil physical conditions: Change in soil structure from crumb or granular structure to massive or platy structure, restricted to the surface 0-10 cm. Platy structure is non-continuous. Fine, medium, and large roots can penetrate or grow around the platy structure. No "J" rooting is observed. Erosion is slight
Soil Disturbance Class 2 Soil surface: Wheel tracks or depressions are 5 to 10 cm deep. Accessory: Forest floor layers partially intact or missing. Surface soil partially intact and may be mixed with subsoil. Burning moderate: Depth of char 1- 5 cm. Accessory: Duff deeply charred or consumed. Surface-soil water repellency increased compared to the pre-burn condition. Soil compaction: Increased compaction is present from 10-30 cm in depth. Observation of soil physical condition: Change in soil structure from crumb or granular structure to massive or platy structure, restricted to the surface 10-30 cm. Platy structure is generally continuous Accessory: Large roots may penetrate the platy structure, but fine and medium roots may not. Erosion is moderate	**Soil Disturbance Class 3** Soil surface: Wheel tracks and depressions highly evident with depth >10 cm. Accessory: Forest floor layers are missing. Evidence of surface soil removal, gouging, and piling. The majority of surface soil has been displaced. Surface soil may be mixed with subsoil. Subsoil partially or totally exposed. Burning High: Depth of char > 5 cm. Accessory: Duff and litter layer completely consumed. Surface soil is water repellent. Surface reddish or orange in places. Soil compaction: Increased compaction is deep in the soil profile (> 30 cm in depth). Observations of soil physical conditions Change in soil structure from granular structure to massive or platy structure extends beyond 30 cm in depth. Platy structure is continuous. Accessory: Roots do not penetrate the platy structure. Erosion is severe and has produced deep gullies or rills.

23. Comment: It is hard to determine the difference between the two action alternatives with regard to detrimental soil disturbance. Appendix E doesn't distinguish between the two except to note that certain units would have temporary roads. What are the differences between the two? (FOC)

Response: Regarding detrimental soil disturbance (DSD), the difference between the two alternatives is that Alternative 2, compared to Alternative 3, has higher overall DSD due to temporary road construction (Units 1, 3, 6, 7, 16 and 27) and two more units that require specific design measures that set limits on the extent of new DSD to remain below the 15% DSD standard (revised DEIS pages 66 and 67). Related specifically to the 15% DSD standard, the cumulative DSD for all units under each alternative would be less than 15%, following harvest activities and temporary road construction.

Vegetation

24. Comment: We have some concern with the intensity of regeneration logging proposed for the purpose of white pine restoration. We encourage you to evaluate some of the research from Terrie Jain at the RMRS in Moscow who has found that smaller openings can meet the goal of reestablishing white pine. You should evaluate the potential of incorporating some of proposed units to evaluate the effectiveness of different size openings for white pine restoration. (ICL)

Response: Theresa Jain, et al (2004) found that "Growth will be sacrificed when western white pines occur in openings of less than 4-5 hectares, but the species can persist in smaller openings." While this is true, openings of this size would not meet the other purpose of this project, which is to restore white pine and larch to more historic amounts of these forest cover types across the landscape. Since the white pine cover type in particular is so underrepresented compared to historic levels, smaller openings would not meet this goal as effectively as the openings currently proposed, because smaller openings treat smaller areas and therefore less of the landscape is restored.

25. Comment: We encourage you to retain trees in a non-uniform spacing to promote within-stand diversity in both the white pine restoration, as well as the commercial thinning units. By varying the spacing and retaining clumps of trees, wildlife habitat, ecological function and microclimatic variables can be improved. (ICL)

Response: In units proposed for regeneration harvest, seed tree harvest and shelterwood harvest would be used as well as variable tree retention. Seed tree and shelterwood harvests would favor white pine and western larch for retention, and trees would be left where they naturally occur on the landscape. Variable tree retention would also be implemented in the units proposed for regeneration harvest. This is expected to result in a non-uniform pattern throughout the units.

In units proposed for commercial thinning, prescriptions would allow flexibility to leave trees in varying densities, but retaining an average density throughout the unit (refer to revised DEIS, p. 18). Units would likely be marked to retain an average basal area, which would cause more trees to be retained where the trees are smaller and fewer trees to be retained where the trees are larger.

26. Comment: We encourage you to maintain some co-dominant, suppressed trees that can often develop into more suitable wildlife trees. We recognize that the purpose of the project is to promote growth; however, maintaining diversity within the stands is key towards meeting other standards and guidelines consistent with the Forest Plan. (ICL)

Response: It is highly likely that co-dominant and intermediate trees would be retained in units proposed for commercial thinning. Suppressed trees would be retained where needed to achieve desired stocking levels.

27. Comment: The DEIS notes that no old growth or older forests (over 130 years old) would be logged. Will any be thinned? Also, were any of those areas logged in the past? If so, why do they meet old growth characteristics? (FOC)

Response: No timber harvest, including thinning, would occur in these areas. Areas designated as old growth or older forests have generally not been logged in the past. Any logging that may have occurred in the past was minimal salvage logging and did not change the overall stand characteristics.

28. Comment: Given blister rust, it is laughable to suggest white pines are healthier than species currently occupying the area. The trees that grow there now, by any measure of biological understanding, are most adapted to the area. (FOC)

Response: Harvey et al 2008, states: "A strong tendency to be tolerant of endemic insects and pathogens is a characteristic generally typical of seral species in white pine country. This is particularly true of WWP [western white pine]. The species is usually quite tolerant of the myriad of foliar insects and root-rotting pathogens typical of the region." This same article also states that "Native insects and pathogens are powerful background forces in WWP-dominated ecosystems. They tend to remove the late seral and climax species, such as Douglas-fir, grand fir, and western hemlock, from stands as they age."

Hagle 2010, states that with the prevalence of root disease in this project area, particularly Armillaria, recommended management is to replace root disease susceptible species (grand fir, Douglas-fir) with less susceptible species (larch and white pine). Western white pine regeneration would be performed by planting blister rust resistant stock.

29. Comment: Research shows logging increases rather than decreases disease in trees. However, this project is supposedly justified on decreasing disease through logging. (FOC)

Response: Aho et al support this claim in their paper entitled "Decay Fungi and Wounding in Advance Grand and White Fir Regeneration" (1987). This research paper is consistent with other research on incipient decay in grand fir often caused by wounding, and is consistent with why we are not proposing to manage for or release grand fir.

30. Comment: The assertion that white pines are ecologically more resilient than other species is ridiculous. Yet, the DEIS claims that it is making the area more resilient by planting white pines and increasing age diversity. (FOC)

Response: The Dictionary of Forestry (1998) defines resilience as "the capacity of a (plant) community or ecosystem to maintain or regain normal function and development following disturbance". Neuenschwander and others (1999) assert "western white pine regenerates well after wildfire, logging, or land clearing. Fire is so good for the species that 50 years after a fire, its forests are dense again with thousands of trees per acre." With this information in mind, it is reasonable and accurate to state that white pine is resilient to disturbance.

According to Neuenschwander and others (1999) "the western white pine forests of the Pacific Northwest are today occupied by less stable, diverse, resilient, and productive species than they were a century ago." The authors are referring to the shift that has occurred from white pine dominated forests to more shade tolerant dominated forests. This statement substantiates that western white pine forests are more resilient than the species that have supplanted them.

The purpose of this project is not to eradicate shade tolerant species from the landscape; the purpose is to increase species diversity at the stand and landscape levels by increasing amounts of early seral tree species. According to Tappeiner and others (2007), "Growing mixed-species stands and avoiding dense stands on dry sites are important ways to provide some resistance to pathogens and insects and to preserve options for forest stands when outbreaks occur." This statement reflects what is discussed in the revised DEIS: that increasing species diversity on the landscape and at the stand level increases resilience.

In the revised DEIS (p. 4), balancing vegetative successional stages is listed as one of the ways in which resilient conditions would be created. Raffa and others (2008) support this idea: "Homogeneous species, age, and genetic structures are more likely than more heterogeneous conditions to provide the sudden input of available hosts needed to surpass the eruptive threshold following an exogenous stress." In other words, increasing species and age class diversity increases a system's resistance to disturbance, thus making it more resilient.

Literature Cited

Neuenschwander, L.F., J.W. Byler, A.E. Harvey, G.I. McDonald, D.S. Ortiz, H.L. Osborne, G.C. Snyder, A. Zack. 1999. White pine in the American West: a vanishing species- can we save it? USDA Forest Service, General Technical Report RMRS-GTR-35. 20p.

Raffa, K.F., B.H. Aukema, B.J. Bentz, A.L. Carroll, J.A. Hicke, M.G. Turner, and W.H. Romme. 2008. Cross-scale drivers of natural disturbances prone to anthropogenic amplification: the dynamics of bark beetle eruptions. Bioscience 58: 501-517

Tappeiner, J.C., D.A. Maguire, T.B. Harrington. 2007. Silviculture and Ecology of Western U.S. Forests. Oregon State University Press, Corvallis, OR. 440 pp.

31. Comment: The DEIS fails to adequately analyze the fact that just adjacent to the project area (to the west) are a few hundred thousand forested acres in the young habitat type. Thus, there is no need to create this supposed age diversity on the landscape scale. In any case, the types most rare are the older forest types. (FOC)

Response: Actually, the forested acres on private lands to the west are advancing into mid-seral age classes. A purpose of this analysis is to start the trend to balance vegetative successional stages within the Lower Orogrande analysis area, which consists entirely of National Forest lands. Also, per the Forest Plan, we manage old growth habitat by old growth analysis units, which in the case of Lower Orogrande are all meeting Forest Plan standards (refer to revised DEIS, pgs. 15 & 16 and Appendix D).

Water/Fish

32. Comment: Since the Responsible Official must obtain a NPDES permit from EPA before any activity may commence on this timber sale, the Decision Document must state that the permit will be obtained immediately after the decision document has been signed. (DA)

Response: Section 402 of the Clean Water Act that discusses the need for a NPDES permit is referenced on page 8 of the revised DEIS. On December 12, 2012, the EPA revised the stormwater regulations to clarify that an NPDES permit is not required for stormwater discharges from logging roads (40 CFR Part 122; Fed. Reg. Vol. 77, No. 236). NPDES permits for the Lower Orogrande Project are not required at this time.

Although the Forest Service is not bound by the NPDES permitting requirements, the Lower Orogrande project still has to meet other water quality requirements of the Clean Water Act, the State of Idaho, and the Forest Plan. An effects analysis was completed for watershed (DEIS, pages 68 through 76), and consistency with these requirements was discussed (DEIS, pages 8 and 9, and page 76).

33. Comment: The watershed improvements (road decommissioning and road closures) are the same between Alternative 2 and 3. The planning team should have presented differences in the watershed improvements within the range of alternatives. (IDPR)

Response: No issues were identified during the analysis that required a difference between the action alternatives in regards to watershed improvements.

34. Comment: How can the DEIS claim that Appendix K in the forest plan is being met when there is "no data" on one watershed (page 43)? (FOC)

Response: There is no reference to "no data" on page 43 of the revised DEIS. Table 3.2 states that the existing condition for Lower Orogrande Creek was "not modeled". Appendix K relies on either actual survey data or modeled data. Orogrande Creek below French Creek meets the desired condition for cobble embeddedness based on actual habitat surveys conducted on the creek (revised DEIS, pgs. 43, 44).

35. Comment: The DEIS states that, "Any sediment yield increases would be short-term (0-5) years, and beneficial uses in Orogrande Creek and its tributaries would be maintained." There are two concerns with this statement. First, it suggests that sediment could increase, a violation of the settlement agreement and the forest plan standards. Second, it conflates the beneficial uses under state water law with the much stricter forest plan standards. (FOC)

Response: The short term sediment estimate is based on the WEPP model that predicts a very low (less than 10%) probability of sediment delivery to streams (revised DEIS, p-71). BMP monitoring across the Forest has shown no sediment delivered to streams from harvest operations due to the implementation of design features (revised DEIS, pg.24, 71). There is no violation of the settlement agreement or Forest Plan standards due to the low probability of delivery when combined with monitoring and professional judgment. The project meets Forest Plan standards as well as maintains beneficial uses (revised DEIS, pgs. 71, 75, 76, 81). The only direct sediment entering streams are associated with road decommissioning and culvert replacement activities (revised DEIS pgs. 72, 74, 78).

36. Comment: The DEIS suggests that there is sufficient vegetation for shading. Orogrande Creek, particularly on the side opposite the road, is devoid of trees due to past logging in the RHCAs. However, the DEIS makes inconsistent statements on whether the riparian vegetation is currently sufficient to meet habitat and water quality standards. (FOC)

Response: As noted in the revised DEIS, p-45, the mainstem of Lower Orogrande Creek will not achieve its TMDL shading target due to its large width combined with 1.5 miles of meadow habitat and the presence of 6.5 miles of Forest Road 250. The vegetation in Lower Orogrande tributaries are well shaded and continue to grow, allowing standards to be met over time. Project activities would not affect riparian shading, except where trees are removed during road decommissioning activities (revised DEIS, pgs. 78-81). The removal of these roads would allow for improved and long-term shading over time.

37. Comment: The DEIS discussion of regeneration logging mentions the RHCAs (page 17). Will there be logging in the RHCAs as well? (FOC)

Response: RHCAs are mentioned as areas where leave trees would be retained. No commercial harvest is proposed in RHCAs (revised DEIS, pgs. 24, 78).

38. Comment: This DEIS suggests there is little or no bull trout use in the area. However, the entire main stem of Orogrande Creek is LISTED as critical habitat. How does the DEIS comply with ESA given that fact and the fact that all restoration work may not occur? (FOC)

Response: As noted in the revised DEIS, p-45, bull trout use is limited in the drainage because of a natural falls near the mouth of Lower Orogrande Creek. The USFWS has the responsibility for designating critical habitat throughout the range of bull trout. The North Fork Clearwater River has a strong population of bull trout, and since the Lower Orogrande Falls was not a complete barrier to upstream migration, the stream was listed. The project complies with ESA in that it does not adversely affect bull trout or designated critical habitat due to the retention of INFISH buffers, road decommissioning, culvert replacement, and road reconstruction activities. It would have beneficial effects to bull trout as a result of the variety of proposed road work. The USFWS concurred that the project is in compliance with ESA (Letter of Concurrence, Dec. 14, 2011). The Clearwater National Forest has an excellent record of conducting culvert replacements and road decommissioning (CNF Annual Monitoring Reports, 2009). The Forest, and its Watershed Restoration Coordinator, maintains an emphasis on these types of activities and will continue to do so into the future.

39. Comment: What monitoring data, including recent data, prove an upward trend in water quality since the forest plan was approved? The water quality/fisheries data in the DEIS appear to be 14 years old. (FOC)

Response: The Forest Plan does not require an "upward trend" for aquatic habitats but instead seeks to meet certain desired conditions. The use of older data is acceptable especially when combined with field reviews (revised DEIS pgs. 77, 79) and the fact that very little timber harvest has occurred in the area since the data was collected. No landslides or other events have occurred since that time that would increase sediment to streams. In addition, 34 miles of road decommissioning and continued vegetation growth has occurred since the data was collected. This has allowed for increases in shading, overhead cover, and large woody debris as well as reduced sediment input from roads during that time. Field reviews combined with professional judgment indicate that streams are stable or are experiencing improving conditions.

40. Comment: Is the existing condition (page 43) actually the existing condition or a modeled condition? How can data that is at least fifteen years old be considered current? (FOC)

Response: The existing sediment yield information presented on page 43 was modeled in WATBAL in 1997 (pg. 42). The only exception is the information for Orogrande Creek below French Creek which is based on actual stream survey data (pg. 43, 44). The effects analysis for sediment yield was modeled using WEPP (pg.71) and is based on current slope length, gradient, soils, precipitation, and stream buffer width. Watershed conditions are expected to be in a better condition now than in 1997 due to a lack of activities since the model was run therefore older data was considered usable. Field surveys of streams were also conducted during project development in order to assess stream conditions (revised DEIS, pgs. 69, 77).

41. Comment: When was the actual monitoring on cobble-embeddedness done and what are the results? In other words, what monitoring data, including recent data, prove a positive trend in water quality since the forest plan was approved? (FOC)

Response: The Forest Plan does not require a positive trend for aquatic habitats but instead seeks to meet certain desired conditions. Cobble embeddedness data was collected in 1997 and presented in the Fisheries section of the Revised DEIS (pg. 44). Levels for the mainstem of Orogrande were 22-28% which is well below the 35% Forest Plan desired condition. All other tributaries exceeded the desired conditions. *See Comment 39 above for more information on potential trends in water quality.*

42. Comment: The DEIS suggests watershed improvement from restoration activities. However, there is no guarantee those activities would all occur (see pages 110 and 111). Are water quality assessments in the DEIS based upon the assumption that the stated improvements under the various alternatives would actually occur? (FOC)

Response: The revised DEIS suggests that harvest activities may not be able to pay for all the proposed aquatic restoration work; however the Clearwater National Forest has an excellent record of completing culvert replacements and road decommissioning activities through appropriated funds and partnership programs (CNF Annual Monitoring Reports, 2009). The Forest, and its Watershed Restoration Coordinator, continues to maintain an emphasis on these types of activities and will continue to do so into the future. The water quality assessments (potential sediment yield, are based on sediment modeling using WEPP. This model does not account for road decommissioning or culvert replacement activities (revised DEIS, pgs. 68). The analyses associated with these activities are qualitative (revised DEIS, pgs. 72, 78, 79) and based on science and professional experience. Road reconstruction activities on routes used for timber haul would be required as part of the timber sale (Map Alternative 2, Vegetation Treatments, Chapter 2 revised DEIS). These activities are not optional and occur in many of the same locations as the watershed restoration activities (Map Alternative 2, Watershed and Wildlife Activities, Chapter 2).

43. Comment: Why does the DEIS claim road decommissioning will lead to reforestation when future timber sales may use those areas for roads? Isn't the analysis on page 73 misleading in this regard? (FOC)

Response: A roads analysis was conducted for the project area which identified roads needed for future management. The remaining roads were proposed for decommissioning. The analysis on page 43 is tied to the 40 acre opening assessment. If we restrict Units 1, 2, and 16 to 40 acre or less

openings, then 2 miles of road proposed for decommissioning would not occur. If we utilize the proposed harvest of over 40 acres, then those roads could be decommissioned. No future use is expected on roads that are decommissioned.

44. Comment: The DEIS is not clear on cumulative impact to water quality and fisheries, especially when taking into account adjacent land. Some of the analysis only includes road densities from the national forest land. However, the cumulative impact on watersheds (and wildlife) should consider all the acreage within a given watershed. Why has this been inconsistently analyzed? Also, adjacent lands don't have the requirement for RHCAs to protect bull trout. (FOC)

Response: As stated in the revised DEIS, the cumulative effects analysis for Watershed and Fisheries is provided in the revised DEIS, pages 74, 75, 79, 80). They do not include a quantitative assessment for private lands, except for ECA, but do complete a qualitative assessment. They explain why and how private lands were or were not considered and why there would be no cumulative effects based on existing conditions and project design. While private lands may not have INFISH RHCAs, they are required to follow Idaho Forest Practices Act BMPs in order to minimize effects to streams (revised DEIS, pg. 80). There is no designated critical habitat for bull trout on private/state lands.

45. Comment: Regarding RHCAs, the DEIS would allow precommercial thinning in these areas. Are there plans to commercially thin then log in RHCAs? If not, why do precommercial thinning? (FOC)

Response: Precommercial thinning is a silvicultural term that we use to describe thinning of trees that are of small, non-merchantable size. Thinning allows us to select for preferred species that will stay on the landscape over the long term, including trees within RHCAs. It reduces competition for light, nutrients, and water and provides for a healthy stand of trees. The agency has no plans for commercially thinning or logging in RHCAs at this time or in the foreseeable future.

Wildlife

46. Comment: The DEIS claims no impact to kingfisher, Coeur d'Alene salamander, and harlequin duck. However, the action alternatives "treat" within ten feet of streams. How can a no effect determination be made? (FOC)

Response: The only treatment within the buffers is precommercial thinning and the "no treatment area" has been expanded to 25' based on public comment. Proposed activities would avoid potentially suitable habitats for the three species (revised DEIS, p-48). Coeur d'Alene salamanders prefer spring seeps, waterfall spray zones and banks of small cascading streams (Project File, Wildlife supporting document). Only three of the units proposed for thinning occur near streams of this type. Retained trees within units and untreated areas outside of them will continue to provide cover habitat for the salamander. Harlequin ducks prefer large rivers with gradients less than 3%, such as the mainstem of Orogrande Creek. Young plantations suitable for precommercial thinning do not provide habitat for harlequins. Kingfishers perch on any available vegetation generally very close to the stream and construct burrows for nesting. They also prefer larger streams. Four of the precommercial thinning areas are near streams larger enough for kingfisher use. Adequate vegetation would be retained in untreated and treated areas to provide perching habitat for kingfisher.

47. Comment: The DEIS claims no effect to goshawk, pileated woodpeckers, and marten because they use old growth forests and none would be logged. Past documents from the Clearwater National Forest offices have claimed that additional habitat outside of old growth exists for those species. Why the sudden change? (FOC)

Response: Analyzing each of these species in detail is the main difference between the revised DEIS and the original DEIS (refer to the revised DEIS, pgs. 50-52 and 84-94). Although some habitat outside of old growth for each species would be affected by proposed treatments, the overall conclusion is that there would be no cumulative effects associated with the Lower Orogrande project that would jeopardize species populations or alter current population trends.

48. Comment: With regard to the boreal toad, how can the project affect its habitat when it supposedly resides in RHCAs? Furthermore, would the activity associated with precommercial thinning in RHCAs affect even more habitat? (FOC)

Response: Boreal toads utilize stream habitats during the breeding season but are known to travel away from them into upland habitats outside of that season (revised DEIS, p-54). Precommercial thinning is not likely to affect toads since they prefer to hide under logs. Thinning would remove standing trees and would not displace or remove existing downed logs. In many of the units, down wood is likely lacking due to previous harvest. In addition, any risk to the species is considered very low due to the lack of sightings in the project area (revised DEIS, p-54).

49. Comment: The DEIS admits to a loss of quality summer habitat for elk for all action alternatives. Since the area consists of MA E1 and MA C4 (wildlife winter range?), the agency apparently does not consider that a problem. (FOC)

Response: As noted in the revised DEIS, p-82, elk habitat effectiveness would be reduced by 1% to 47%. This is almost double the minimum Forest Plan requirement of 25%. Activities would increase forage by 5% and security to 15%, both of which are beneficial to elk. We do not consider this a problem, as the benefits outweigh the slight reduction of habitat effectiveness, which still exceeds Forest Plan requirements.

50. Comment: There are riparian areas (MA M2) included in the project area. The DEIS admits it will thin in those areas, yet there is no apparent analysis of the impact to elk habitat. What would the impact be on elk and moose from that riparian thinning? (FOC)

Response: The areas proposed for precommercial thinning provide only very limited forage as well as cover opportunities. Effects to elk and moose from thinning are expected to be minimal mostly due to the widespread and small size of the units. Negative effects could include slightly less cover in the units and some difficulty in traveling through the units due to slash. This would last roughly two years. There may be slight increases in forage opportunities as the ground cover (grasses, forbs) grow with increased light.

51. Comment: The DEIS omits any analysis of lynx, stating the area is not within an LAU. However, the Clearwater is considered occupied habitat and the area does have habitat for lynx. Furthermore, it is mapped as lynx habitat according to the Idaho Department of Fish and Game. (FOC)

Response: It is correct that some portions of the Clearwater National Forest are considered occupied habitat by the U.S. Fish and Wildlife Service (FWS), but this habitat does not extend into the project area. The areas of occupied habitat on the Forest are organized into Lynx Analysis

Units (LAUs) by the US Fish and Wildlife Service, of which the nearest LAUs (11, 21, and 38) are more than a mile distant from the project boundary. The Forest examined the referenced Idaho Fish and Game map and found it to map approximate and predicted distribution rather than habitat.

52. Comment: It appears that both old growth and mature stands would be logged, when comparing the map in appendix D and the preferred alternative. Could you please provide a map showing both old growth and mature forests overlayed with the proposed units? Could you also please clarify whether any mature forest or old growth would be logged? (FOC)

Response: As stated on page 15 of the revised DEIS, "no stands of old growth (150+ years old) of stands that qualify as step down (130+ years old) are proposed for treatment." The map requested has been attached to the Errata section of this document.

Misc. Comments

53. Comment: The maps included in the Revised DEIS appear inconsistent with the acreage reductions identified in Alternative 3. For instance, in each of the unit areas accessed by a temporary road in Alternative 2, the same units are displayed in association with Alternative 3. (ICL)

Response: The vegetation treatment map displayed in the revised DEIS for Alternative 3 is in error, in which there was no change in unit boundaries when compared to Alternative 2. However, the unit acreages displayed in Tables 2.2 and 2.3 are correct for both alternatives. A corrected map for Alternative 3 has been attached to the Errata section of this document.

54. Comment: The following quote from the [USDA - *Survey Results of the American Public's Values, Objectives, Beliefs, and Attitudes Regarding Forests and Grasslands*] proves that the Proposed Action in the Lower Orogrande revised DEIS is the antithesis of what the American public want done to their precious national forest land: "The public sees the restriction of mineral development and of timber harvest and grazing as being more important than the provision of natural resources to dependent communities (although this is still seen as somewhat important)." (DA)

Response: The above mentioned survey of approximately 7,000 randomly selected members of the American public was documented in a 121-page technical report used to support the 2000 USDA Forest Service RPA Assessment or Strategic Plan. This Plan is updated every five years and provides the strategic direction that guides the Forest Service in delivering its mission, which is to "sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations".

The quote referenced in the comment can be found in the Economic Development subsection of the technical report and actually contradicts the opinion the commenter is trying to present for the following reasons:

a. Using the survey's scale of 1=not at all important to 5=very important, the objective of providing natural resources to dependent communities scored a 3.60, compared to a 3.99 for restricting timber harvest and grazing. Thus, as stated in the quote, the objective of providing natural resources to dependent communities was still considered somewhat important.

b. The survey also stated that "the provision of resources is also a somewhat important role for the USDA Forest Service."

The current USDA Forest Service Strategic Plan for fiscal years 2007-2012 highlights the need for forest and grassland restoration to help reestablish structural characteristics, native species, and ecological processes. It also contains Objective 2.1, which is to "provide a reliable supply of forest products over time that (1) is consistent with achieving desired conditions on NFS lands and (2) helps maintain or create processing capacity and infrastructure in local communities." The Lower Orogrande project is clearly in line with the Strategic Plan and its objectives (refer to revised DEIS, pages 2 through 4).

55. Comment: We encourage the Forest Service to develop a detailed monitoring plan that includes a discussion of how monitoring results would inform the implementation of forest activities and the potential need to modify these in order to further the project's goals. (EPA)

Response: The Clearwater Forest has been conducting BMP audits for timber harvest and road related activities as well as monitoring on the effectiveness of road decommissioning and culvert replacements (CNF Annual Monitoring Reports, various years). Past monitoring has led to improvements in implementation in all activities (Annual Monitoring Report, 2009). Long-term monitoring continues for road decommissioning projects and BMP audits are conducted annually on selected timber sales. Due to limited funding and personnel, monitoring cannot be conducted on every project across the Forest. Monitoring in other portions of the North Fork Clearwater drainage on similar landtypes to Lower Orogrande has been conducted. These areas are representative of conditions in the project area. Results of monitoring there and elsewhere on the Forest were, and will continue to be, used to make adjustments to proposed activities.

56. Comment: We understand that the Clearwater/Nez Perce Forest Plan is currently being revised through the collaborative forest process. We recommend that the Forest Service consider issues identified through this process that may pertain to the project area directly or cumulatively. (EPA)

Response: Collaboration with the public occurs early in project planning, leading up to the purpose and need and proposed action. One of the primary collaborative groups associated with both Forests is the Clearwater Basin Collaborative (CBC). Coordination with CBC for the Lower Orogrande project began in January of 2010 and has continued throughout the project analysis.

E. Consideration of Other Science/Literature Submitted by the Public

Members of the Lower Orogrande interdisciplinary team are considered proficient in their field of study by way of academic achievement, agency training, years of professional experience, and in some cases, certification programs. As required under 40 CFR 1502.9(b), 1502.22, and 1502.24, team specialists identified methods used, referenced scientific sources relied on, discussed responsible opposing views, and disclosed incomplete or unavailable information. The opposing views contained in the comment letters were evaluated for applicability to this project proposal, with the findings discussed below:

Science/literature submitted by Friends of the Clearwater	***How Considered?***	***Rationale/Comments***
Baker, William, **Fire Ecology in Rocky Mountain Landscapes.**	Not applicable.	The book referenced supports landscape burning , which is not the purpose of Lower Orogrande.
Attachment #1 submitted by Dick Artley	***How Considered?***	***Rationale/Comments***
Al-jabber, Jabber M. 2003 **Habitat Fragmentation: Effects and Implications**	Not used; Supports analysis	The document discusses fragmentation, which supports the project's goal to retain large patches of ground in the project area.
Anderson, P.G. 1996. **"Sediment generation from forestry operations and associated effects on aquatic ecosystems"**	Not used; supports analysis	Consistent with other science used to develop design features to minimize sediment. This article discusses the effects of logging and roads on aquatic habitats, particularly in relation to sediment delivery to streams. The article recommends measures to limit effects. These are similar to those used for the project including INFISH buffers, the decommissioning of unnecessary roads, and using appropriate yarding systems to minimize soil disturbance.
Applying Ecological Principles to Management of the U.S. National Forests	This document is applicable and consistent with literature used in the analysis	This article identified major ecological considerations that should be incorporated in sound forest management policy and their potential impacts on current practice. The project would maintain structural diversity by retaining coarse down woody debris.
Barry, Glen, Ph.D. **Commercial Logging Caused Wildfires.**	Not applicable.	This is an opinion piece that denounces all commercial timber harvest on FS lands.
Barry, John Byrne. **Stop the Logging, Start the Restoration**.	Not applicable	This is an opinion piece advocating an end to commercial logging on federal lands.
Cushman, John H. Jr. 1999. **Audit Faults Forest Service on Logging Damage in U.S. Forests.**	Not Applicable	This 1999 article in the New York Times reported deficiencies in implementation of Forest Service timber sales between 1995 and 1998. It is not pertinent to this project.
Dombeck, Mike Ph.D. **Through the Woods.**	Not used; supports analysis	This quotation is taken out of context and does not address any specific activities in the proposed project
Dombeck, Mike Ph.D. 1998. A message on **Conservation Leadership** sent to all USFS employees on July 1, 1998	Not used; supports analysis	The Lower Orogrande project was developed with consideration of resource values, Forest plan goals, objectives and standards and in compliance with NEPA regulations.
Ehrlich, Anne Ph.D., David Foster Ph.D. and Peter Raven Ph.D. 2002. **Call to End Logging Based on Conservation Biology**.	Not applicable	The excerpted quote refers to environmental damage caused by Forest Service logging activities in the past century. It calls for a halt to commercial logging on National Forest Lands.
FOREST CONSERVATION NEWS TODAY. August 27, 2002. **Bush Fire Policy: Clearing Forests So They Do Not burn**	Not applicable	This is an opinion piece, not a scientific document.
Franklin, Jerry Ph.D., et. al. 2000. **Simplified Forest Management to Achieve Watershed and Forest Health: A Critique.**	Provides background information applicable and consistent to this project.	In this article, a multi-disciplinary group of scientists discuss ecosystem based management approaches to keep watersheds and forests functioning properly.
Franklin, Jerry F. Ph.D. and James K. Agee Ph.D. 2007. **Forging a Science-Based National Forest Fire Policy.**	Provides background information applicable to this project.	This paper is applicable and consistent with other literature used in the analysis.
Giuliano, Jackie Alan, Ph.D. 2008. **Fire Suppression Bush Style: Cut Down the Trees!**	Not applicable	This is an opinion piece, not a scientific document.

Attachment #1 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Government Accounting Office. 1999. **Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats**.	Used for background information.	The Lower Orogrande project was developed to meet the purpose and need for action and to minimize impacts to resources. It is consistent with Forest Plan direction for this area and the 2007 Regional Integrated Restoration and Protection Strategy.
Gorte, Ross W. Ph.D. 1995. **Forest Service Timber Sale Practices and Procedures: Analysis of Alternative Systems**.	Not applicable	This report describes the Forest Service timber sale system and the major concerns over the consequences of the sale system. It then reviews the option of a complete overhaul of the current approach that would separate the timber cutting and removal from the sale of the wood, and analyzes the consequences of this approach. This is not applicable to analysis of the environmental effects of the proposed actions.
Hanson, Chad Ph.D. 2000. **Commercial Logging Doesn't Prevent Catastrophic Fires, It Causes Them**.	Not Applicable	This opinion piece is not a scientific document.
Hanson, Chad, Ph.D. 2001. **Logging for Dollars in National Forests**.	Not applicable	This is a single statement from an opinion piece
Hanson, Chad Ph.D. 2008. **Logging Industry Misleads on Climate and Forest Fires**.	Not applicable	This is a single statement taken from an opinion piece.
Harvey, A. E., M. J. Larsen, and M. F. Jurgensen. 1976. **Distribution of Ectomycorrhizae in a Mature Douglas-fir/larch Forest Soil in Western Montana.**	Used for background information	Numerous authors have reported reductions in mycorrhiza populations due to forest disturbance; however, the degree of reduction and its impact on forest regeneration varies widely and depends on many factors. Project activities and design features are consistent with science discussed.
Houston, Alan Ph.D. 1997. **Why Forestry is in Trouble with the Public.**	Not applicable	Opinion piece
H. R. 1494 text. April 4, 2001 http://www.agriculturelaw.com/legis/bills107/hr1494.htm	Not applicable	Quotation refers to a single sentence taken out of context.
Hudak, Mike Ph.D. 1999. **From Prairie Dogs to Oysters: How Biodiversity Sustains Us**.	Not applicable	Quotation refers to a single sentence taken out of context.
Huff, Mark H. Ph.D., et. al. 1995. **Historical and current forest landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production**.	Used for background information	This study examined changes in vegetation structure and composition in 6 river basins in eastern Oregon and Washington from 35 to 50 years ago to the present and to project the effects of vegetation changes on potential fire behavior and smoke production.
Ingalsbee, Timothy Ph.D. 1997. **Logging for Firefighting: A Critical Analysis of the Quincy Library Group Fire Protection Plan.**	Not applicable	This paper is specific to the Quincy Library Group Fire Protection Plan.
Ingalsbee, Timothy Ph.D. 2000. **Commercial Logging, for Wildfire Prevention: Facts Vs Fantasies.**	Not applicable	This is an opinion piece.
Ingalsbee, Timothy Ph.D. 2002. **Logging without Limits isn't a Solution to Wildfires**.	Not applicable	This is an opinion piece
Ingalsbee, Timothy Ph.D. 2002. **The wildland fires of 2002 illuminate fundamental questions about our relationship to fire**.	Not applicable	This is single statement taken from an opinion piece.
Ingalsbee, Timothy Ph.D. 2003. **Fanning the Flames! The U.S. Forest Service: A Fire-Dependent Bureaucracy.**	Not applicable	This is an opinion piece. This project would treat logging slash
Ingalsbee, Timothy Ph.D. 2005. **A Reporter's Guide to Wildland Fire.**	Not applicable	This opinion piece contends that logging will make the area more prone to high intensity and high severity wildfires. Project analysis has determined that fuel loading post harvest would decrease.
Jalkotzy, M.G., P.I. Ross, and M.D. Nasserden. 1997. **The Effects of Linear Developments on Wildlife: A Review of Selected Scientific Literature**.	Not used.	This report discusses the effects of linear developments on wildlife, particularly types of roads and linear developments created by the oil and pipeline industries in western Canada. This project would not construct any new permanent roads.

Attachment #1 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Keene, Roy. 2009. **Logging does not prevent wildfires**.	Not applicable	Opinion piece
Keene, Roy. 2011. **Restorative Logging? "More rarity than reality"**	Not applicable	Opinion piece
Keppeler, Elizabeth T. Robert R. Ziemer Ph.D., and Peter H. Cafferata. 1994. **Effects of Human-Induced Changes on Hydrologic Systems.**	Used as background information	This study addresses hillslope drainage processes by comparing pre- and postharvest pore pressure levels and soil moisture conditions on a steep hillslope within a zero order basin in coastal northwestern California. The Lower Orogrande project incorporates design measures, BMPs and riparian area protections as well as ground truthing by project hydrologists and soil scientists to assure there would be no effects to these resources.
Klein, Al. 2004. **Logging Effects on Amphibian Larvae Populations in Ottawa National Forest.**	Not used.	This project proposes road decommissioning, culvert replacement and removal and 10 acres of small diameter fuels treatments in RHCAs and INFISH buffers where amphibians may exist. The Project BE/BE has documented there would be minimal effects to any amphibians from project activities.
Laverty, Lyle, USDA Forest Service and Tim Hartzell U.S. Department of the Interior. 2000. **A Report to the President in Response to the Wildfires of 2000**.	Used as background information	This Project would treat post harvest slash.
Lawrence, Nathaniel, NRDC senior attorney. 2001. **Gridlock on the National Forests**.	Not applicable	This nonscientific paper discusses thinning for fire risk reduction and post-fire salvage logging. This project does not propose post-fire salvage, but rather proposes thinning to improve stand health.
Leitner, Brian. 2003. **Logging Companies are Responsible for the California Wildfires**.	Not applicable	This nonscientific paper discusses thinning for fire risk reduction.
Long, Richard D., U.S. Department of Agriculture Office of Inspector General. 2001. **Western Region Audit Report: Forest Service National Fire Plan Implementation.**	Not applicable	This report presents the results of the Inspector General's 2001review of the Forest Service's implementation of the National Fire Plan. This report has no bearing on this project.
Mann, Charles C. Ph.D. and Mark L. Plummer Ph.D. 1999. **Call for 'Sustainability' in Forests Sparks a Fire**.	Not applicable	The Lower Orogrande Project is consistent with Forest Plan direction for this area.
Maser, C. Ph.D. and J. M. Trappe Ph.D. 1984. **The Seen and Unseen World of the Fallen Tree.**	Not applicable	Designated logging systems are designed to minimize soil disturbance that would detrimentally affect both physical character and biological soil organisms. Site disturbance for preparation for planting of the kind current in 1984 is not necessary with proposed silvicultural prescriptions, harvest systems, and site preparation activity.
Maser, C. Ph.D., R. F. Tarrant, J. M. Trappe Ph.D., and J. F. Franklin Ph.D. 1988. **The Forest to the Sea: A Story of Fallen Trees.**	Not applicable	Levels of down material that would remain after logging have been specified and are consistent with current direction.
Moring, John R. Ph.D. 1975. **The Alsea Watershed Study: Effects of Logging on the Aquatic Resources of Three Headwater Streams of the Alsea River, Oregon – Part III**.	Not applicable	This citation refers to logging practices of 34 years ago. This project's design features including implementation of INFISH RHCAs would prevent these effects.
Naeem, Shahid Ph.D., et. al. 1999. **Biodiversity and Ecosystem Functioning: Maintaining Natural Life Support Processes.**	Consistent with project proposal	Biodiversity is preserved in this project by following Forest Plan requirements.
Nappier, Sharon. **Lost in the Forest: How the Forest Service's Misdirection, Mismanagement, and Mischief Squanders Your Tax Dollars**.	Not applicable	This is an opinion piece, not science
Noble, Ian R. and Rodolfo Dirzo Ph.D. 1997. **Forests as Human-Dominated Ecosystems.**	Not applicable	The Forest Plan specifies management direction for various areas. This project is consistent with Forest plan management direction for this area
Northup, Jim. 1999. **Public Wants More Wilderness, Less Logging on Green Mountain NF**.	Not applicable	This is an opinion statement containing survey information – not science
Okoand Ilan Kayatsky, Dan. 2002. **Fight Fire with Logging?**	Not applicable	This is an opinion piece
Parfitt, Ben and Laurel Brewster. 2000. **Muddied Waters: The Case for Protecting Water Sources in B.C.**	Not applicable	This publication is specific to British Columbia

Attachment #1 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Peters, Robert L. Ph.D, Evan Frost, and Felice Pace. 1996. **Managing for Forest Ecosystem Health: A Reassessment of the „Forest Health Crisis**	Provides general background information	This publication notes that fire, insects and disease are the drivers of forest diversity, structure and function. This project proposes activities to move species composition and structure toward desired conditions.
Peterson, Mike,. 2003. Testimony to the Senate Agriculture, Nutrition, and Forestry Committee concerning the Healthy Forests Restoration Act, HR 1904. June 26 2003	Not applicable	This is not a HFRA project
Platt, Rutherford V. Ph.D., et. al. 2006. **Are Wildfire Mitigation and Restoration of Historic Forest Structure Compatible? A Spatial Modeling Assessment.**	Not Applicable	This study questions the validity of thinning as a means both to reduce the threat of wildfire and to restore historic forest structure. Commercial and precommercial thinning proposed under this project are aimed at increasing stand vigor and species diversity.
Powell, Douglas S. Ph.D, Joanne L. Faulkner, David R. Darr, Zhiliang Zhu Ph.D. and Douglas W. MacCleery. 1992. **Forest Resources of the United States.**	Not Applicable	This quotation is a single statement pulled out of context of the document. Forest Service direction requires that all stands where harvest is prescribed be classified as suitable for timber production
Quigley, Thomas M. Ph.D., Richard W. Haynes and Russell Graham Tech. editors. 1996. **Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basins**.	General information	Within this GTR, a wide variety of ecosystems are referenced. In this broad context, especially, the above statement regarding human-induced fire regime changes (where these changes have occurred) captures the primary historical activities related to those now-apparent changes.
Raven, Peter, Ph.D., Jane Goodall, C.B.E., Ph.D., Edward O. Wilson, Ph. D. and over 600 other leading biologists, ecologists, foresters, and scientists from other forest specialties. From a 1998 letter to congress.	Not applicable	This 1998 letter to Congress is an opinion piece signed by advocates of the Act to Save America's Forests. The Lower Orogrande project does not enter any old growth habitat or roadless areas and does not propose clearcutting.
Raven, Peter, Ph.D., from his February 9, 2001 letter to Senator Jean Carnahan	Not applicable	This 1998 letter to Senator Jean Camahan is an opinion piece that discusses harvest of ancient forests; clearcutting; harvesting roadless areas; and logging in certain special forest areas . This project does not enter any old growth habitat or roadless areas and does not propose clearcutting. This letter states we need to …allow sustainable forest practices around these protected forests which is consistent with the proposed project.
Roberson, Emily B. Ph.D., Senior Policy Analyst, California Native Plant Society Excerpt from a letter to Chief Dale Bosworth and 5 members of congress	Not applicable	These statements are generalizations, which, although they may be valid in some settings, do not apply to Lower Orogrande because of project design features. Moreover, this is court testimony by a third party, which although it is the speakers considered opinion, it is not peer reviewed material.
Roelofs, Terry D. Ph.D. 2003. Testimony for the California State Water Board and Regional Water Quality Control Boards Regarding Waivers of Waste Discharge Requirements on Timber Harvest Plans. August 2003.	Not applicable	This paper discusses how logging and associated activities impact coastal watersheds in California inhabited by coho salmon. INFISH buffers, BMP implementation assures there would be no change in temperature or sedimentation from proposed activities.
Rudzitis, Gundars. 1999 **Amenities Increasingly Draw People to the Rural West.**	Not applicable	Quotation references opinion poll information. It is not a scientific document.
Scott, Mark G. **Forest Clearing in the Gray's River Watershed 1905-1996.**	Not applicable	This reference does not apply to this project. It focuses on the effects clearcutting within a watershed, which is not proposed under this project.
Short, Brant, Ph.D. and Dayle C. Hardy-Short Ph.D. **Physicians of the Forest : A Rhetorical Critique of the Bush Healthy Forest Initiative**.	Not applicable	Opinion piece
Sierra Club. 2005. **Ending Commercial Logging on Public Lands**.	Not applicable	Opinion piece
Slaymaker, Olav Ph.D. **"Assessment of the Geomorphic Impacts of Forestry in British Columbia".**	Not used; supports analysis	Consistent with other science used to develop design features to minimize hydrology effects. The abstract cited speaks to effects on runoff, water yield, peak flows, sediment and wood transport and mass movement (landslides). The article suggests that following Forest Practice Act codes (in British Columbia) can significantly minimize these impacts. The Lower Orogrande project implements design features, such as INFISH buffers, that are more stringent than state Forest Practice Act codes. Clearwater National Forest BMP audits have verified the effectiveness of preventing or greatly limiting impacts to streams.

Attachment #1 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Stahl, Andy. 2003. **Reducing the Threat of Catastrophic Wildfire to Central Oregon Communities and the Surrounding Environment**.	Not applicable	This is not a HFRA project
Strickler, Karyn and Timothy G. Hermach. 2003. **Liar, Liar, Forests on Fire: Why Forest Management Exacerbates Loss of Lives and Property**.	Not applicable	This is an opinion piece opposing all timber harvest
Taxpayers for Common Sense. 2000. **From the Ashes: Reducing the Harmful Effects and Rising Costs of Western Wildfires**.	Not applicable	This is an opinion piece, not science
Thomas, Craig. 2007. **Living with risk: Homeowners face the responsibility and challenge of developing defenses against wildfires**.	Not applicable	The quoted statement is included in an opinion piece. The statement focuses on protecting homes from wildfire near Lake Tahoe and encourages residents to implement defensible space around their homes.
University of California; SNEP Science Team and Special Consultants 1996. **Sierra Nevada Ecosystem Project: Final Report to Congress Volume 1**, **Chapter 4 – Fire and Fuels.**	Not applicable	These findings of this report apply to the Sierra Nevada ecosystem, not this project.
USDA Forest Service. **Forest Management: A Historical Perspective.**	Not applicable	This document does not pertain to proposed activities in this project.
Vincent, James W. Ph.D., et.al. 1995. **Passive-Use Values of Public Forestlands: A Survey of the Literature.**	Not applicable	The Lower Orogrande project is consistent with Forest Plan Management area direction. The article contains survey information, not science.
Voss, René. 2002. **Getting Burned by Logging**.	Not applicable	This is an opinion piece; not a scientific document.
Wuerthner, George. 2008. **Logging, thinning would not curtail wildfires.**	Not Applicable.	This article contends that mechanical treatments can increase wildfires' spread and severity by increasing the fine fuels on the ground (slash) and by opening the forest to greater wind and solar penetration, drying fuels faster than in unlogged forests. This project proposes treatment of activity fuels following timber harvest.
Wuerthner, George. 2009. **Who Will Speak For the Forests?**	Not applicable	This is an opinion piece describing potential resource impacts from logging activities in general. The Lower Orogrande project contains design features to contain potential impacts.
Ziemer, Robert R. Ph.D., 1992. **Effect of logging on subsurface pipeflow and erosion: coastal northern California, USA.**	Not applicable	Article is specific to northern California
Attachment #4 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Amaranthus, Mike P. Ph.D., Raymond M. Rice Ph.D., N. R. Barr and R. R. Ziemer Ph.D. 1985. **Logging and forest roads related to increased debris slides in southwestern Oregon.**	Not used; Supports analysis	This study came to the same conclusions as ones done on the Clearwater N.F. after 1996-1997 flood event. The project avoids landslide prone areas.
Borga, M., F. Tonelli, G. Dalla Fontana and F. Cazorzi. 2003. **Evaluating the Effects of Forest Roads on Shallow Landsliding** .	Not used	The WEPP model was used for watershed analysis on this project.
Bowling, L.C., D. P. Lettenmaier, M. S. Wigmosta and W. A. Perkins. 1996. **Predicting the Effects of Forest Roads on Streamflow using a Distributed Hydrological Model.**	Not used	The WEPP model was used for watershed analysis on this project.
Brister, Daniel. 1998. **A Review and Comment on: *Forest Service Roads: A Synthesis of Scientific Information*, 2nd Draft, USDA Forest Service.**	Limited applicability	Comments on a Forest Service document focusing on disagreement with a number of statements. Too broad to apply to the road segments and land types in the project area. Since the points cited are from a large variety of articles in many areas, it is difficult to find applicability to the design measures and land types where roads exist or are proposed on this project.
Bunnell, Fred L. Ph.D., Kelly A. Squires and Isabelle Houde. 2004. **Evaluating effects of large-scale salvage logging for mountain pine beetle on terrestrial and aquatic vertebrates.**	Limited applicability	This pertains to beetle kill salvage logging in British Columbia. The Lower Orogrande project is not conducting salvage logging; however many of the design features are used in the project (tree retention, INFISH buffers)
Burns, James W. 1972. **Some Effects of Logging and Associated Road Construction on Northern California Streams.**	Not used	This study is based on road building practices of the 1960s. This project requires design features to eliminate the problems presented in this document.

Attachment #4 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Buttenfield, Barbara P. Ph.D. and David R. Cameron. 2000. **Scale Effects and Attribute Resolution in Ecological Modeling.**	Not used; supports analysis	This document discusses GIS analysis using different scales. It touches on fragmentation of patches caused by roads and the influence of roads on landscape structure. The Lower Orogrande project assesses roads at the smaller project level, and larger cumulative effect level.
deMaynadier, Phillip G. and Malcolm L. Hunter, Jr. **Road Effects on Amphibian Movements in a Forested Landscape.**	Not used	Study conducted in Maine for wide roads with use of 300 vehicles/day.
Dombeck, Mike Ph.D. 1998. US Forest Service Chief Dombeck remarks made to Forest Service employees and retirees at the University of Montana. February 1998.	Not Used; supports analysis	Lower Orogrande is consistent with the road recommendations made by the Chief in this speech: no new permanent roads, eliminate unneeded roads and upgrade roads important to public access.
EPA. 2000. Entry into the Federal Register: March 3, 2000 (Volume 65, Number 43) Page 11675. **National Forest System Road Management.**	Not used supports analysis	CFR notice of comment opportunity on Forest Service Road Management. Proposed strategy would have forests analyze new and existing roads for need, decommission those not needed, improve those roads needed to limit effects to resources. Lower Orogrande is consistent in that it addresses all three topics.
Forman, Richard T. and Lauren E. Alexander. 1998. **Roads and their Major Ecological Effects.**	Not used; supports analysis	Document discusses road impacts to species at a national level including Britain and Australia.
Frey, David. 2010. **Logging Won't Halt Beetles, Fire, Report Says**.	Not applicable	The document is all about efficacy of management treatments in lodgepole pine forest during mountain pine beetle epidemics, which does not apply to the Lower Orogrande project.
Furniss, Michael J., Michael Love Ph.D. and Sam A. Flanagan. 1997. **Diversion Potential at Road-Stream Crossings.**	Not used; supports analysis	Document discusses impact of roads on the fishery. Project proposed action and design features minimize road impacts.
Gable, Eryn . 2010. **Battling beetles may not reduce fire risks – report.**	Not applicable	The document is all about efficacy of management treatments in lodgepole pine forest during mountain pine beetle epidemics, which does not apply to the Lower Orogrande project.
Grace, Johnny M. III Ph.D. 2003. **Minimizing the impacts of the forest road system.**	Not used	Study of mitigation measures to reduce sediment off roads in Georgia. Current BMP's including slash filter windrows have shown to be very effective on the Clearwater N.F.
Gucinski, Hermann Ph.D., Michael J. Furniss, Robert R. Ziemer Ph.D. and Martha H. Brookes, Editors. 2001. **Forest Roads: A Synthesis of Scientific Information.**	Not used	Discusses the connection of roads to community economic and resource impacts.
Hann, W.J. et al. 1997. **Landscape dynamics of the Basin**.	Not Used; supports analysis	This assessment provides general background information on landscape dynamics within the Columbia Basin. The Lower Orogrande project addresses many of the issues mentioned here.
Haskell, David G. Ph.D. 1999**. Effects of Forest Roads on Macroinvertebrate Soil Fauna of the Southern Appalachian Mountains.**	Not used	The document discusses the macroinvertebrate soil fauna reduction near roads in the Appalachian Mountains. This project addresses the issue through road decommissioning activities.
Hawbaker, Todd J. Ph.D., et. al. **Road Development, Housing Growth, and Landscape Fragmentation In Northern Wisconsin: 1937–1999**.	Not used	Not applicable. This document pertains to road densities associated with housing development.
Ivins, Molly. 1997. Creators Syndicate, August 3 1997 08 03. http://www.creators.com/opinion/molly-ivins/molly-ivins-august-3-1997-08-03.html	Not used	Article suggests that N.F. roads are paid for by tax payers. Access to the timber stand via road construction is an appraised cost to determine stumpage. A business practice conducted by all land owners who sell timber.
Jones, Julia A. Ph.D., Frederick J. Swanson Ph.D., Beverley C. Wemple Ph.D., and Kai U. Snyder. 2000. **Effects of roads on hydrology, geomorphology, and disturbance patches in stream networks.**	Not used; supports analysis	This document supports the Lower Orogrande soil and water analysis recommendation to decommission excess roads and to reconstruct roads to minimize effects to streams.
Kahklen, Keith. 2001. **A Method for Measuring Sediment Production from Forest Roads.**	Not used	This paper discusses how and what equipment to use to conduct sediment monitoring for roads. The Lower Orogrande project does not propose to complete this type of monitoring. The WEPP model was used to model sediment production from roads on the this project.

Attachment #4 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Karr, James R. Ph.D., et. al. 2002. **Excerpt from a letter to the Subcommittee on Forests & Forest Health U.S. House of Representatives**.	Not applicable	This letter is a rebuttal to the Forest Service Chiefs testimony regarding the "Beschta report" which pertains to post fire salvage logging. Lower Orogrande is not a post fire salvage project.
Lawren, Bill. 1992. **Singing the Blues for Songbirds: Bird lovers lament as experts ponder the decline of dozens of forest species**.	Not applicable	Songbirds are not an issue with the Lower Orogrande project.
Lowe, Kimberly Ph.D. 2005. **Restoring Forest Roads.**	Not used; supports analysis	This paper pertains to restoring unused and abandoned roads. Lower Orogrande decommissions 89 miles of unneeded roads.
Luce, Charles H. Ph.D. 2002. **Hydrological processes and pathways affected by forest roads: what do we still need to learn?**	Not used, supports analysis	This document supports the watershed analysis for water and sediment yield. Lower Orogrande proposes road improvements to minimize effects to water and sediment yield to streams.
Maholland, Becky and Thomas F. Bullard Ph.D. 2005. **Sediment-Related Road Effects on Stream Channel Networks in an Eastern Sierra Nevada Watershed.**	Not used, supports analysis	This document supports the watershed analysis for water and sediment yield and the soil analysis for landslide assessment.
Malecki, Ron W. 2006. **A New Way to Look at Forest Roads: the Road Hydrologic Impact Rating System (RHIR)**.	Not used; supports analysis	This newsletter focuses on wildland restoration activities in the west. Lower Orogrande proposes road decommissioning and reconstruction work and culvert replacement that fit with the goals of this group.
McCashion, J. D. and R. M. Rice Ph.D. 1983. **Erosion on logging roads in northwestern California: How much is avoidable?**	Not applicable	This document discusses potential types of modeling that may be used to determine the effects of roads. It is dated. Lower Orogrande uses the more recent, peer-reviewed WEPP model to analyze these effects.
McFero III, Grace, J. 2004. **Sediment Plume Development from Forest Roads: How are they related to Filter Strip Recommendations?**	Not used, supports analysis	This document discusses the sediment plumes coming off of roads and their length (range 3-140 meters, average 30 meters). It recommends streamside management zone widths (30 meters on fish bearing streams). Lower Orogrande exceeds those widths by implementing INFISH buffers.
McGarigal, Kevin Ph.D., et. al. 2001. **Cumulative effects of roads and logging on landscape structure in the San Juan Mountains, Colorado (USA)**.	Not used, supports analysis	This document discusses the effects of land management at different scales. Lower Orogrande assesses the effects of roads and logging at the project level and larger cumulative effects level scale.
McLellan, Bruce N. 1990. **Relationships between Human Industrial Activity and Grizzly Bears**.	Not applicable	Not applicable since no grizzly bear are in the area.
Megahan, Walter F. Ph.D. 2003. **Predicting Road Surface Erosion from Forest Roads in Washington State**.	Not used	This document discusses the Washington Surface Erosion Model used by the state of Washington. Lower Orogrande uses WEPP to conduct erosion modeling.
Noss, Reed F., Ph.D. 1995. **The Ecological Effects of Roads or the Road to Destruction**.	Not used; supports analysis	This opinion piece discusses the effects of all roads in general and potential mitigation measures to reduce the effects.
Ortega, Yvette K.; Capen, David E. 1999. **Effects of forest roads on habitat quality for Ovenbirds in a forested landscape.**	Not applicable	Not applicable, since no Ovenbirds are in the area.
Reed, R.A., Johnson-Barnard, J., and Baker, W.A. 1996. **Contribution of Roads to Forest Fragmentation in the Rocky Mountains**.	Not used, supports analysis	This document supports the wildlife analysis for big game security. Lower Orogrande also decommissions roads as recommended by this paper.
Reid, L. M. Ph.D. and T. Dunne. 1984. **Sediment Production from Forest Road Surfaces.**	Not used, supports analysis	This document supports the watershed analysis for water and sediment yield.
Reid, Leslie M. Ph.D., Robert R. Ziemer Ph.D., and Michael J. Furniss. 1994. **What do we know about Roads?**	Not used, supports analysis	This document discusses the effects of roads on natural resources, which were assess in this project analysis.
Rice, Raymond M. Ph.D., et. al. 1979. **Watershed's Response to Logging and Roads: South Fork of Caspar Creek, California, 1967-1976.**	Not used	Research is outdated, doesn't consider current BMPs.
Riedel, Mark S. Ph.D. and James M. Vose Ph.D. 2002. **Forest Road Erosion, Sediment Transport and Model Validation in the Southern Appalachians.**	Not applicable	This document discusses the validation of the Watershed Characterization System model for estimating sediment. Lower Orogrande uses WEPP for modeling sediment.

Attachment #4 submitted by Dick Artley	*How Considered?*	*Rationale/Comments*
Rowland, M. M., et. al. 2005. **Effects of Roads on Elk: Implications for Management in Forested Ecosystems**.	Not used, supports analysis	This document supports the wildlife analysis for big game security.
Schwartz, Chuck Ph.D. - March 1998. **Wildlife and Roads**.	Not applicable	No grizzly bears are located in the project area.
Shanley, James B. and BeverleyWemple Ph.D. 2002. **Water Quantity and Quality in the Mountain Environment**.	Not applicable	This document discusses the effects of ski resort development and snow making on streams in Vermont.
Swift Jr., L. W. **1984. Soil losses from roadbeds and cut and fill slopes in the Southern Appalachian Mountains.**	Not used, supports analysis	This document supports the watershed analysis for water and sediment yield and supports the design measures required for proposed road activities under this project.
Switalski, Adam. 2003. **Where Have All the Songbirds Gone? Roads, fragmentation, and the Decline of Neotropical Migratory Songbirds**. **Wildlands CPR, September 8, 2003.**	Not applicable	Neotropical migratory songbirds are not an issue with the Lower Orogrande project. However, this project does decommission 89 miles of roads to reduce the effects of fragmentation.
Trombulak, Stephen C. Ph.D. and Christopher A. Frissell Ph.D. 2000. **Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities**.	Not used, supports analysis	This document discusses the effects of roads on terrestrial and aquatic resources. It recommends building no roads in sparsely or unroaded areas and encourages removal of unneeded roads. Lower Orogrande does not construct permanent roads and decommissions unneeded roads.
Watson, Mark L. 2005. **Habitat Fragmentation and the Effects of Roads on Wildlife and Habitats.**	Not used, supports analysis	This document supports the wildlife analysis for big game security.
Wisdom, Michael J., et. al. 2000. **Source Habitats for Terrestrial Vertebrates of Focus in the Interior Columbia Basin: Broad-Scale Trends and Management Implications Volume 2 – Group Level Results.**	Not used, supports analysis	This document supports the wildlife analysis for big game security.
Wright, Bronwen, Policy Analyst and Attorney Pacific Rivers Council Excerpt from a May 11, 2009 letter to the Rogue River-Siskiyou National Forest Travel Management Team	Not Used; Supports analysis	This is a site-specific comment letter to the Rogue-Syskiyou NF on their Travel Plan DEIS that addresses the effects of roads on aquatic resources. It recommends closing roads and improving stream crossings to minimize effects. Lower Orogrande decommissions roads and upgrades culverts.
Wuerthner, George. 2008. **Ecological Differences between Logging and Wildfire**.	Not Used	The "article" is George Wuerthner's Blog and not a peer reviewed scientific document. It makes many sweeping claims about logging, such as the shape of harvest units, size of trees removed, snags left behind, etc., and many of the its concerns are mitigated in the Lower Orogrande project."
Zimmerman, E.A. and P.F. Wilbur. 2004. **A Forest Divided**.	Not used; supports analysis	This non-scientific article discusses forest fragmentation in and the effects on aquatic and terrestrial resources. Lower Orogrande does create new openings, but on a landscape scale. It also decommissions roads to reduce fragmentation effects.

F. Distribution List for the Final EIS (Hardcopy or Web Document)

Tribal Organizations Nez Perce Tribal Executive Committee ***U.S. Congressmen*** Representative Raul Labrador Senator Jim Risch Senator Mike Crapo ***Local Officials*** Clearwater County Commissioners	***Idaho State Agencies*** Department of Health and Welfare Division of Environmental Quality Department of Parks and Recreation ***Businesses*** Bennett Lumber Products Empire Lumber Co. Potlatch Corporation
Federal Agencies Advisory Council on Historic Preservation DOE – US Department of Energy Office of NEPA Policy & Compliance EPA – Environmental Protection Agency Region 10 EIS Review Coordinator FAA – Federal Aviation Administration Northwest Mountain Region FHA – Federal Highway Administration Division Administrator NOAA – National Oceanic & Atmospheric Admin National Marine Fisheries Service Office of Policy and Strategic Planning NPPC – Northwest Power Planning Council U.S. Army Engr. Northwestern Division U.S. Coast Guard – Environmental Management USDA – U.S. Department of Agriculture Deputy Director APHIS PPD/EAD Natural Resources Conservation Service Forest Service USDI – U.S. Department of Interior Office of Environmental Policy and Compliance	***Public Interest Groups/Organizations*** Clearwater Basin Collaborative Friends of the Clearwater – Alliance for the Wild Rockies – The Lands Council Idaho Conservation League ***Individuals*** Dick Artley Jean Public ***Libraries*** USDA – National Agriculture Library

Plus, individuals expressing interest in the project and requesting a copy of the FEIS

APPENDIX F

Letters Received from Federal and State Agencies

The following letters were received from Federal and State Agencies in response to the revised DEIS:

1. Idaho Department of Parks and Recreation (IDPR) – submitted by Jeff Cook
2. United States Department of the Interior – submitted by Allison O'Brien
3. United States Environmental Protection Agency (EPA) – submitted by Christine Reichgott

IDAHO DEPARTMENT OF PARKS AND RECREATION

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December 7, 2012

Kathy Rodriguez, District Ranger
North Fork Ranger District
12730 U.S. Highway 12
Orofino, ID 83544

RE: Lower Orogrande Project DEIS

Dear Ms. Rodriguez:

The Idaho Department of Parks and Recreation staff reviewed the Lower Orogrande Draft Environmental Impact Statement (DEIS). The North Fork Ranger District proposes watershed improvements, timber harvest, and wildlife habitat activities in the Lower Orogrande drainage near Pierce, Idaho.

We previously commented on this project during the scoping period on January 19, 2009 and during the original DEIS comment period on July 26, 2011. It appears that our comments on Transportation and Access and Socio-Economics were not incorporated into this DEIS. We could find no differences between the latest DEIS and the July 2011 DEIS.

Attached are our 2011 Comments. These comments need to be reflected in the final EIS.

Sincerely,

Jeff Cook, Outdoor Recreation Analyst
Recreation Bureau

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July 26, 2011

Rick Brazell, Forest Supervisor
Clearwater National Forest
12730 U.S. Highway 12
Orofino, ID 83544

RE: Lower Orogrande Draft Environmental Impact Statement

Dear Mr. Brazell:

The Idaho Department of Parks and Recreation (IDPR) staff reviewed the Lower Orogrande Draft Environmental Impact Statement (DEIS). The North Fork Ranger District proposes watershed improvements, timber harvest, and wildlife habitat activities in the Lower Orogrande drainage near Pierce, Idaho.

We previously commented on this project during the scoping period on January 19, 2009. We are concerned about the effects that this project would have on recreation access and activities in the project area.

There are several groomed snowmobile trails in the project area. The DEIS did not contain any design features to protect these trails. In order to protect snowmobile trail opportunities, we request that no winter logging be allowed for this project.

The logs are likely to be hauled out on the Pierce-Superior Road #250. This road is a major recreation access road on the North Fork Ranger District. In order to prevent conflicts between recreation traffic and logging traffic, the IDPR requests that log hauling be prohibited on weekends and holidays.

The above listed design features would go a long ways to reducing conflicts between recreation traffic and logging traffic. These design features need to be incorporated into the Record of Decision.

The DEIS presents three alternatives; Alternative 1 – No Action, Alternative 2- Proposed Action, and Alternative 3. The only major difference between Alternative 2 and 3 is the amount of timber that is harvested. The watershed improvements (road decommissioning and road closures) are the same between Alternative 2 and 3.

The planning team should have also presented differences in the watershed improvements within the range of alternatives. One alternative could provide more improvements while the other alternative would provide fewer improvements.

In the Summary on page VI the DEIS addresses Transportation and Access Management. The DEIS states “or 6.1 miles of road per square mile”. This is a misleading statement.

The project area contains many miles of roads that are closed to public motorized vehicles. Most of these roads are the non-system roads. The FEIS should clearly state the amount of roads open to motorized vehicles on a year-round or seasonal basis throughout the range of alternatives.

The DEIS addresses Public Involvement in Chapter 2 on Page 11. The DEIS indicates that 8 comment letters were received during the scoping period. For a DEIS, this is a low number of comments. We are concerned that many members of the public were unaware that this project would change roads designations in the project area. In the future, scoping documents should have the road designation changes clearly defined in the document.

In Chapter 3, under Community Stability, the DEIS makes an incorrect reference to statewide ATV-registrations. The DEIS states “State-registered ATV’s have increased from 24,207 in 1999 to 52,371 in 2004, with an even higher percentage increase from 2004 to present.” This data is out of date, uses a wrong number, and covers the wrong geographic area.

The DEIS should have referred to current ATV registration figures and only those registrations in North Central Idaho. Registered ATVs outside of North Central Idaho most likely don’t have an effect on Community Stability in Clearwater County Idaho. We have attached the 2010 Idaho OHV Registration Statistics. The FEIS should reference these statistics as wells at the following statement – “State registered ATVs in North Central Idaho have increased from 8,107 in 2006 to 10,091 in 2010 – a 24% increase. The previous five year period (2001-2005) ATV registrations increased 56.1% in North Central Idaho”[i].

The DEIS addresses Transportation Effects on Pages 92-94. We are very concerned with the decommissioning of Road 660. This road is currently a groomed snowmobile trail. The reconstruction of Road 547 could replace this groomed route, but will eliminate an ATV trail opportunity. The FEIS Transportation Effects needs to clearly disclose on how snowmobile trail and ATV trail opportunities will be affected by the road decommissioning and road closures.

The DEIS also does not address the effects that the road decommissioning and road closures would have on dispersed camping. The FEIS needs to document on how many dispersed campsites would be affected.

In our opinion, Alternative 2 offers a better option on preserving groomed snowmobile trail opportunities. In the final decision, Road 547 should be reconstructed to replace the loss of Road 660.

Thank you for the opportunity to review this DEIS. If you have any questions about our comments, please contact me at (208) 514-2483.

Sincerely,

Jeff Cook, Outdoor Recreation Analyst
Recreation Bureau

Enclosures

[i] Idaho Department of Parks and Recreation Registration of ATVs 2006-2010 and 2001-2005
http://parksandrecreation.idaho.gov/datacenter/recreation_statistics.aspx

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
620 SW Main Street, Suite 201
Portland, Oregon 97205-3026

9043.1
IN REPLY REFER TO
ER12/799

Electronically Filed

December 11, 2012

George Harbaugh
U.S. Forest Service
12730B Highway 12
Orofino, Idaho 83544

Dear Mr. Harbaugh:

The Department of the Interior has reviewed the revised draft environmental impact statement for the Lower Orogrande Project. The Department does not have any comments to offer.

We appreciate the opportunity to comment.

Sincerely,

Allison O'Brien

Allison O'Brien
Regional Environmental Officer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

December 17, 2012

Rick Brazell
Forest Supervisor
Clearwater National Forest
12730 Highway 21
Orofino, Idaho 83844

Re: U.S. Environmental Protection Agency comments for the Lower Orogrande Revised Draft Environmental Impact Statement (RDEIS). EPA Project Number: 10-001-AFS.

Dear Mr. Brazell:

The EPA has reviewed the RDEIS for the Lower Orogrande Project on the Clearwater National Forest. This review was conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Under our policies and procedures, we evaluate the environmental impact of the proposed action and the adequacy of the impact statement.

The Lower Orogrande project includes watershed improvements, timber harvest, and wildlife enhancement activities on 21,250 acres on the Clearwater National Forest. The RDEIS was developed to address comments raised on the previous analysis in the 2011 final EIS. The substantive changes identified in the RDEIS include a discussion of management indicator species, additional information of adjacent lands, and an update to the effects section for soils based on revised unit boundaries. Other changes in the RDEIS are modified proposed road activities due to further review of the Roads Analysis and 30 fewer acres proposed for silviculture treatments.

The RDEIS evaluates two action alternatives (Alternatives 2 and 3) that propose decommissioning 89 miles of road, replacing 16 undersized culverts, installing 3 additional fish passage culverts, and year round road restrictions on 14.5 miles to improve elk security. Alternative 2 is identified as the agency's Preferred Alternative and differs by including 2.4 miles of temporary road construction, 60 additional acres of regeneration harvest (660 total acres) and 70 more acres of commercial thinning (500 total acres).

The EPA provided comments on the previous draft and final EISs in 2011. In our comments on the final EIS we stated that our concerns regarding water quality, monitoring, and habitat were resolved based on clarification in the final EIS and further conversations with Forest Service staff. However, we encouraged the Forest Service to consider results from long term monitoring efforts and utilize adaptive management as a means to adjust activities and priorities when necessary to promote an upward trend in watershed conditions. We acknowledge the improvements made to the current analysis and for continuing to promote resilient watershed conditions on the Lower Orogrande through road decommissioning efforts, habitat improvements, and by prioritizing fish passage needs. Based on our

review we have rated the revised draft EIS LO (Lack of Objections). An explanation of this rating is enclosed.

While the EPA supports these efforts, we continue to encourage the Forest Service to develop a detailed monitoring plan that includes a discussion of how monitoring results would inform the implementation of forest activities and the potential need to modify these in order to further the project's goals. We also understand that the Clearwater/Nez Perce Forest Plan is currently being revised through the collaborative forest process. We recommend that the Forest Service consider issues identified through this process that may pertain to the project area directly or cumulatively. This may provide useful information to help manage limited resources and strategically target key resources to promote a dynamic forest with healthy aquatic habitats.

We appreciate the opportunity to provide comments on the RDEIS. If you have any questions or concerns regarding the comments, please contact me at (206) 553-1601 or by email at reichgott.christine@epa.gov, or you may contact Lynne McWhorter of my staff at (208) 378-5757 or by email at mcwhorter.lynne@epa.gov.

Sincerely,

Christine B. Reichgott

Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

APPENDIX G

Errata to the Lower Orogrande Revised DEIS

Pg. vii, Summary, last paragraph under Wildlife – change last sentence to read: "Although there have been infrequent sightings of wolverine within or near the Lower Orogrande analysis area, an estimated 600 acres are considered suitable foraging wolverine habitat. No denning habitat has been modeled in the project area. Recently, the wolverine's status has changed since the DEIS was published. On February 4, 2013, the U.S. Department of Interior, Fish and Wildlife Service published a proposed rule for the North American wolverine in the Federal Register (Vo. 78, No.23). The wolverine was considered in the Lower Orogrande DEIS as a Region 1 Sensitive species and the determination reached was "May adversely impact individuals or habitat, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide". In reviewing the proposed rule and the activities proposed in the Lower Orogrande project, *the proposed federal action (Alternative 2) is NOT likely to jeopardize the continued existence of the wolverine.* The proposed rule outlines that the threats to wolverine is loss of habitats with persistent snow cover as a result of climate change and increasing temperatures. The proposed rule found that dispersed recreational activities, infrastructure development, transportation corridors, and land management activities do not pose a threat to wolverines. Thus, the land management activities in the Lower Orogrande project for Alternative 2 are not considered a threat to wolverine, which include: timber harvest; watershed restoration, and access management. No conferencing with US Fish and Wildlife Service will be necessary, since the project will not jeopardize the wolverine."

Pg. 8, Section 402 – change this to read: "**Section 402** of the Clean Water Act states that a National Pollutant Discharge Elimination System (NPDES) permit is required for point source discharges including stormwater runoff from logging roads that is collected by and then discharged from a system of ditches, culverts. However, NPDES permits for the Lower Orogrande Project are not required at this time, because the EPA (December 12, 2012) revised the stormwater regulations to clarify that an NPDES permit is not required for stormwater discharges from logging roads (40 CFR Part 122; Fed. Reg. Vol. 77, No. 236)."

Pg. 22, introductory paragraph – change the first sentence to read: "This alternative responds fully to the project's purpose and need for action and would treat a total of 1,160 acres."

Pg. 22. Table 2.2- Remove Units 26 and 30. Unit 26 was added to the precommercial thinning opportunities, and Unit 30 was dropped from Alternative 2.

Pg. 23, introductory paragraph – change the second sentence to read: "It would treat a total of 1,030 acres and would be implemented in fiscal year 2014."

Pg. 23. Table 2.3- Remove Units 26 and 30. Unit 26 was added to the precommercial thinning opportunities, and Unit 30 was dropped from Alternative 3.

Pgs. 22 and 23 – the note regarding regeneration harvest units exceeding 40 acres in size. Unit 19 was reduced to 25 acres and is no longer among the units exceeding 40 acres in size. This also affects narratives in Chapter 4 regarding opening greater than 40 acres, in which there are now <u>seven</u> units, instead of <u>eight</u> that are greater than 40 acres in size.

Pg. 25, Design measure #8 – add the following first sentence: "Logging system layout would designate as much re-use of existing landings and skid trails as possible."

Pg. 25, Design measure #9 – change the first sentence to read: "The soil scientist would assist in the location of temporary roads to re-use existing disturbed areas and minimize excavation."

Pg. 27, Monitoring Requirement #3 – change to read: "Soils monitoring will occur across the Forest to assess: (a) the accuracy of disturbance estimates; (b) if project design measures, such as live-tree retention, were effective; and (c) if units meet Regional soil quality standards. Sampling will cover all combinations of treatment and yarding methods, including units from this project. Results will be reported in the annual Clearwater National Forest Monitoring and Evaluation Report."

Pg. 44 – add the following at the beginning of the Fisheries Section: "Stream habitat and fish surveys were conducted for tributaries on the north side of the mainstem Orogrande in 1995 (Clearwater Biostudies, Inc.). The mainstem Orogrande, Tamarack, and Pine Creeks were surveyed in 1997 (Clearwater Biostudies, Inc.). Information collected includes physical data (stream type, habitat types, substrate, woody material, and cobble embeddedness) and biological data (fish species, distribution, and densities). The information was used to describe the existing aquatic condition. Data for the northern tributaries is thought to be relatively accurate, except in Hook Creek where six road-related landslides occurred during the 1995/1996 flood events. Sediment levels here could have either decreased due to steam flushing or increased due to the slides. Data for the mainstem Orogrande, Pine and Tamarack Creeks is likely similar to or improved over 1997conditions, since little land management, and no flood or fire events, have occurred since then. There have been 260 acres (9%) of intermediate and 180 acres (5%) of regeneration harvest in these drainages since 1997. Timber harvest since 1995 retained INFISH buffers and therefore would have no effect on instream habitat. It is assumed, based on information collected throughout the North Fork Clearwater drainage (CNF, 2005; pgs. Riparian Areas 7 thru 11), that streams in the analysis area are either being maintained or are on improving trends due to a lack of activities in riparian areas and RHCAs over the last 14 years."

Pg. 48, Table 3.3, Canada Lynx – change Occurrence to read: "Presence is very rare or transient."

Pg. 65, first full paragraph – change to read: "The actual acreage logged or "treated" within these units would be considerably less than this gross acreage (326 acres) after areas requiring live-tree retention (e.g. high landslide hazards, wet areas, riparian buffers) are excluded from treatment during implementation (see design measures 1-4). In both alternatives, road decommissioning, improvements in road drainage, and the replacement of undersize and/or deteriorated culverts would lower the risk of mass soil movements associated with roads, resulting in beneficial effects on slope stability across the project area."

Pg. 66, second bullet – change first sentence to read: "Temporary roads (and heavily-used forwarder trails) are considered 100% detrimental disturbance with reduced soil productivity until vegetation, organic matter, and hydrologic function is restrored."

Pg. 67, Effects Specific to Alternative 3: The first sentence should read "Alternative 3 has three units (5, 10 and 13) that would require specific design measures that set limits on the extent of new DSD to keep soils in the unit below the 15% DSD regional soil standard."

Pg. 78, 2nd paragraph – change to read: "There would be no direct effects to fish or their habitat as a result of timber harvest or precommercial thinning activities from either action alternative due to INFISH buffer retention. All vegetation would be retained with the 25' no precommercial thinning zone adjacent to streams. Data has shown that buffers are adequate to prevent sediment input into streams (BNF 2006; FEMAT, 1993). All potential instream and riparian woody debris would be retained and no streamside vegetation would be removed. Precommercial thinning would aid in retaining preferred, long-lived species within RHCAs, particularly western redcedar. No disturbance

would occur in riparian areas or stream channels during timber harvest. INFISH Riparian Management Objectives (pool frequency, water temperature, large woody debris, bank stability, lower bank angle, and width:depth ratio) would be maintained."

Pg. 90, Table 4.7a – the footnote for rows F, I, and J should be ** instead of *.

References – add the following cited references:

Adams, P.W., H. A. Froehlich. 1981. **Compaction of Forest Soils.** Pacific Northwest Extension publication 217. Oregon State Unitversity, Washington State University and University of Idaho Extension Services; and USDA.

Burroughs, E.R. and J.G.King. 1984. **Surface Erosion Control on Roads in Granitic Soils.** (Draft)

Elliot, W. J., D. E. Hall and L. Scheele. 1999. WEPP:Road (Draft 12/1999) **WEPP Interface for Disturbed Forest and Range Runoff, Erosion and Sediment Delivery.** Technical Documentation. USDA Forest Service, Rocky Mountain Research Station and San Dimas Technology and Development Center.

Foltz, R.B., H. Rhee, and K.A. Yanosek, 2007. **Infiltration, erosion, and vegetation recovery following road obliteration.** Transactions of the ASABE. 50(6): 1937-1943.

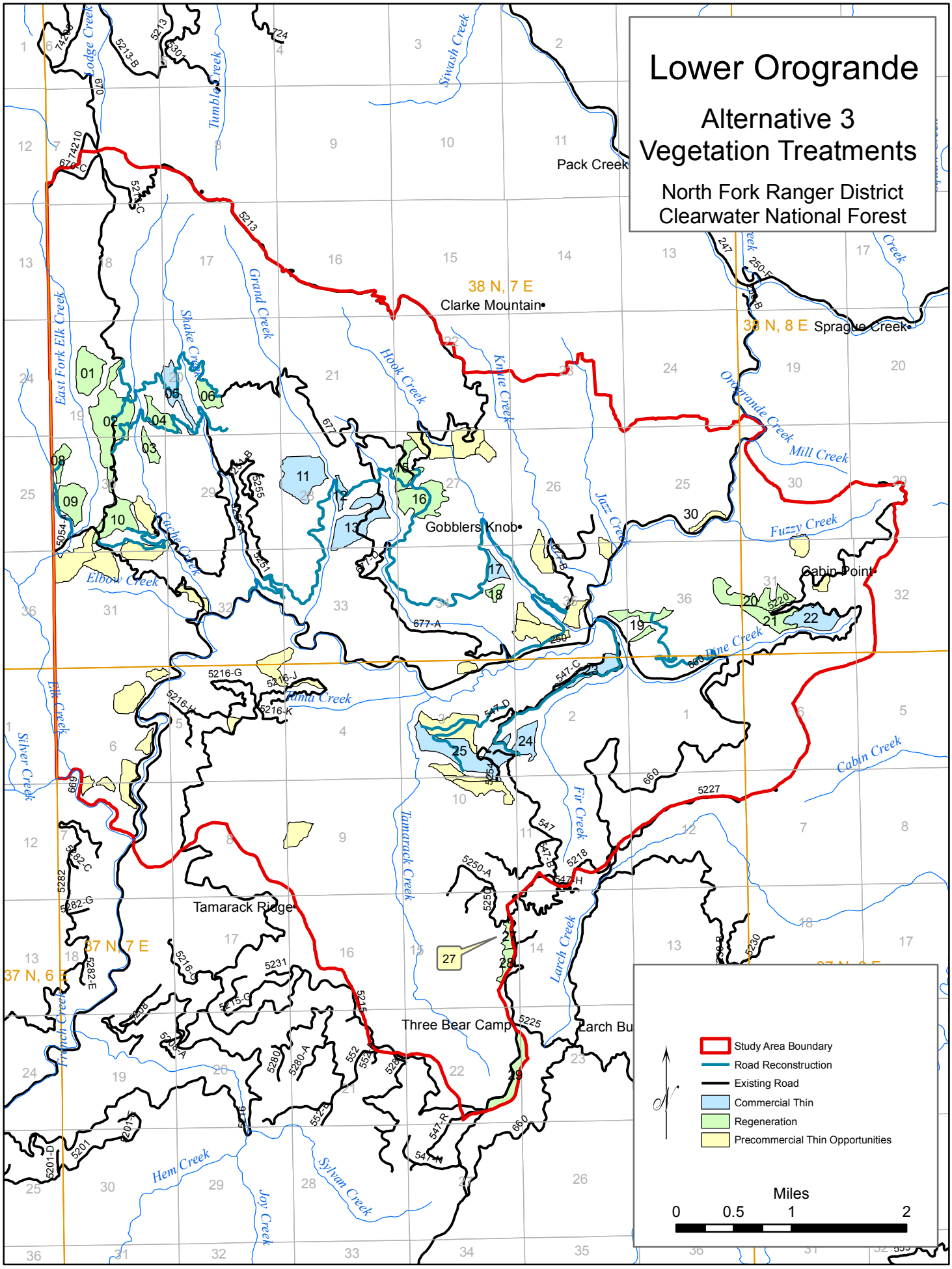
Lloyd R. A. and Lhose K.A., 2010. **Linking Restoration to Ecohydrologic Structure and Function**. (Draft). University of Arizona, Tucson, AZ.

Rone, G. 2011. **Summary of Soil Monitoring on the IPNF 1980s to 2010.** Idaho Panhandle National Forest.

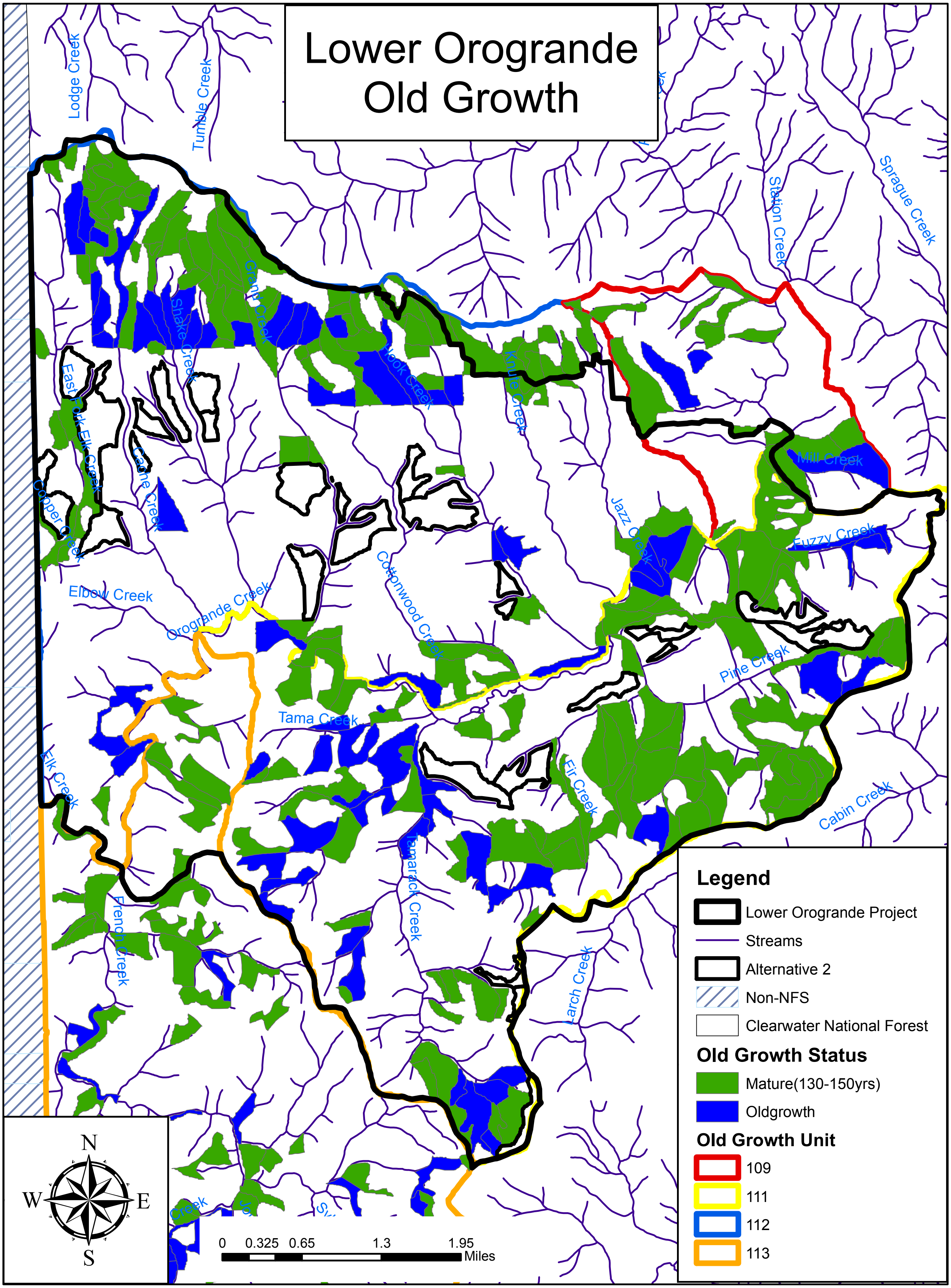
USDA Forest Service. 1999-2009. **Clearwater National Forest Annual Monitoring and Evaluation Reports.** U.S. Department of Agriculture. Clearwater National Forest. Orofino, Idaho.

Corrected or Requested Maps (attached)

1. Alternative 3 Vegetative Treatments
2. Lower Orogrande Old Growth with Alternative 2 Overlay



Path: T:\FS\NFS\NezPerceClearwater\Program\7140Geometronics\GIS\SElias\MXD\LODEISAlt3Veg.mxd



Lower Orogrande Old Growth
Lodge Creek
Tumble Creek
Sprague Creek
Station Creek
Shake Creek
Knute Creek
East Fork Elk Creek
Copper Creek
Elbow Creek
Orogrande Creek
Cottonwood Creek
Jazz Creek
Mill Creek
Fuzzy Creek
Pine Creek
Tama Creek
Elk Creek
Fir Creek
Cabin Creek
Tamarack Creek
French Creek
Larch Creek
Legend
Lower Orogrande Project
Streams
Alternative 2
Non-NFS
Clearwater National Forest
Old Growth Status
Mature(130-150yrs)
Oldgrowth
Old Growth Unit
109
111
112
113
0 0.325 0.65 1.3 1.95
Miles
N
W
E
S